

TO ALL MANUFACTURERS INTERESTED IN PROFITS

The proof of a company's efficiency has long been measured by the profits it makes. But today it has become more difficult than ever to maintain an upward trend. Streamlining your administration and diversification into other fields are two methods of tackling this problem. You could also develop new products or revise or re-package your existing ones. But the latter ways can be expensive if launched on a national scale and then prove to be a failure. The answer is to try out the reaction to your new ideas on a reduced basis. Use a Westminster Press Test Town and you cut down your investment costs to the *absolute* minimum. How? Well, for a start Westminster Press have already set up and paid for comprehensive market research facilities in these towns. Secondly, Westminster Press pay for the maintenance of these facilities when they are not in use – so that their ready availability saves you time as well as money. By using either or both our consumer and retailer research service you get an immediate reaction to how your new product or new package is being received. There is no catch! You do not even have to take advertising space to use this confidential service. Just contact Ron Hunnibal and ask for a fully explanatory booklet on the Westminster Press Diagnostic Marketing Service – and for profit's sake – do it now!

**WESTMINSTER PRESS
PROVINCIAL NEWSPAPERS LIMITED**
Newspaper House, 8/16 Great New Street, E.C.4
Telephone: *FLEet Street 1030*



THE CHEMIST AND DRUGGIST

ESTABLISHED 1859

THE WEEKLY NEWSPAPER FOR PHARMACY
and all sections of the drug, pharmaceutical,
fine chemical, cosmetic, and allied industries

*Official organ of the Pharmaceutical Society of Ireland
and of the Pharmaceutical Society of Northern Ireland*

Volume 183

May 1, 1965

No. 4446

CONTENTS

A "Treasure-house" for Drugs	...	454
Chemical and Dyestuffs Traders	...	458
Evans Medal 1965	...	443
Health Congress	...	442
Hospital Pharmacists' Week-end School	...	440
Hospital Pharmacy Forum	...	452
Instant-Print Photography	...	445
Leading Articles:		
Rush Job	...	449
Assistants on What Basis?	...	450
Multi-millionaire of Magnesia	...	447
New Books	...	450
Pharmaceutical Society of Ireland:		
Council Meeting	...	451
Pharmaceutical Manufacturers'		
Annual Dinner	...	453
Powder Flow	...	458
Topical Reflections	...	439
Branch Events	...	448
Business Changes	...	444
Coming Events	...	459
Commercial Television	...	460
Company News	...	444
Contemporary Themes	...	460
Correspondence	...	448
Deaths	...	444
Echoes of the Past	...	450
Expansion Projects	...	453
In Parliament	...	443
Local Officers	...	439
Manufacturers' Activities	...	447
Marriages	...	444
New Companies	...	456
New Products	...	446
News in Brief	...	439
Overseas News	...	438
Overseas Visits	...	444
Patents	...	459
Personalities	...	444
Prescribers' Press	...	460
Print and Publicity	...	459
Sport	...	439
Trade Marks	...	456
Trade Notes	...	445
Trade Report	...	457
Wills	...	460

Index to Advertisers, p. 4. Classified Advertisements, p. 35.

PUBLISHED BY

MORGAN BROTHERS (PUBLISHERS), LTD.,
at 28 Essex Street, Strand, London, W.C.2
Telephone: Central 6565



MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS



MORGAN BROTHERS (PUBLISHERS), LTD. 1965

GLASGOW: 160 Nether Auldhouse Road, S.3. Phone: *Langside 2679.*
LEEDS: 16: 32 Wynford Rise, West Park. Phone: *Leeds 67 8438.*

ANNUAL SUBSCRIPTION

which includes The Chemist and Druggist Diary and Year Book, £3 10s. Single copies 1s. 3d. each (postage 5d.).



IT ALL ADDS UP

- * 3 OUT OF 5 WOMEN REMOVE UNWANTED HAIR FROM UNDER ARMS AND LEGS
- * 4 OUT OF 5 DEPILATORY CREAM USERS BUY FROM CHEMISTS
- * THE CREAM WITH SPECIAL APPEAL TO THE YOUNGER END OF THIS GROWING MARKET IS

BU-TO

This all adds up, too!

NEW Bu-to advertising in large circulation Women's magazines (*Woman's Mirror*, *Valentine*, *Woman*, *Honey*, *Mirabelle*, *Boyfriend*) aimed particularly at the younger set.

NEW Bu-to pack-young, bright, bang up-to-date—carrying the same advertising story.

NEW Bu-to dispenser again punching out the same hard-hitting theme at the point of sale.

**IT ALL ADDS UP TO A
NATURAL BEST-SELLER**

BU-TO

Two sizes only: Standard 4/6, Small 2/11

BIOMETICA LTD · BOREHAM WOOD · HERTS · ELSTREE 3145

Wright's
Coal Tar Soap

Wright's
Coal Tar Shampoo

**NEW PRICES WITH
EFFECT FROM MAY 10**

PRODUCT	RETAIL PRICE (each)	TRADE PRICE	PURCHASE TAX
WRIGHT'S COAL TAR SOAP Toilet Size	1/1	104/- PER GROSS	26/- PER GROSS
WRIGHT'S COAL TAR SOAP Bath Size	1/11	15/4 PER DOZEN	3/10 PER DOZEN
WRIGHT'S COAL TAR SHAMPOO Economy Bottle	2/8	20/- PER DOZEN	5/- PER DOZEN
NO CHANGE IN PRICE OF SHAMPOO SACHET			

**All orders received by
May 10 will be invoiced
at the old prices**

WRIGHT LAYMAN & UMNEY LTD.
43-55 CLAPHAM ROAD, LONDON S.W.9

The CHEMIST AND DRUGGIST

Volume 183

MAY 1, 1965

No. 4446

Academic Awards

PHARMACY BOARD MEMBERS NAMED

THE following members of the pharmacy board of the Council for National Academic Awards have been appointed:—Dr. F. Hartley (dean of the school of pharmacy, University of London) (*chairman*); Messrs. J. A. Box (senior lecturer, Leicester College of Technology); T. D. Clarke (chief pharmacist, Crumpsall Hospital, Manchester); and W. M. Darling (a member of Council, Pharmaceutical Society); Dr. W. Davey (principal, Portsmouth College of Technology); Mr. E. J. Downing (assistant secretary, National Pharmaceutical Union); Dr. D. Jack (research director, Allen & Hanburys, Ltd.); Mr. F. H. Oliver (head, Sunderland Technical College School of Pharmacy); Dr. J. C. Parkinson (deputy secretary, Pharmaceutical Society); Professor J. B. Stenlake (professor of pharmacy, University of Strathclyde); and Dr. G. E. Watts (principal, Brighton College of Technology). The board will advise the C.N.A.A. on the standard and syllabus for the award by the Council of degrees in pharmacy. The Council recently announced that it would award the degrees of B.Sc. and B.A. (see *C. & D.*, February 20, p. 170).

Dispensing Doctors

EXPENSIVE DRUGS PAYMENTS

THE Minister of Health has decided to amend the list of specially expensive drugs, appliances and reagents, for the supply of which doctors receive payment over and above their capitation fees. The changes effective from May 1 are as in table below.

An amendment to the list under

Drug or Preparation	Examples of drugs and preparations included	Preparations of the drug not included
Amitriptyline hydrochloride ...	Laroxyl, Saroten, Tryptizol	Preparations containing additional drugs
Ethiosuximide ...	Zarontin, Emeside,	Preparations containing additional drugs
Flurandrenolone preparations ...	Simatin	—
Orciprenaline sulphate	Drenison	Preparations containing additional drugs
	Alupent	

"Nitrofurantoin tablets" provides for inclusion of "Furadantin suspension."

Hair Sprays

TREND AWAY FROM THE PHARMACY

ACCORDING to the latest issue (No. 86) of *Retail Business*, published by the Economist Intelligence Unit, the hair spray market grew by 80 per cent. between 1961 and 1965. At retail prices the value of the market in 1964 is

estimated to have been £12.1 millions. Manufacturers are numerous but nine are supplying over half the market. An analysis of the price structure of hair sprays shows that the cheaper brands are generally stocked by grocery shops while chemists "tend to sell the more expensive brands." Main outlet remains the pharmacy, but grocers are fast growing in importance and the "success of the Supersoft brand was particularly due to its use of grocery shops." The Unit forecasts that the market will continue to expand, saturation levels being still distant, that prices will fall, and that sales through grocery shops will increase. Any new entrant is advised by the report "to concentrate mainly on selling to grocery outlets, using a national grocery sales force."

Purchase Tax

MORE "ESSENTIAL" DRUGS EXEMPTED

THE Purchase Tax (No. 1) Direction 1965, made by the Customs and Excise temporarily exempts further "essential" drugs and medicines from purchase tax from April 23. The following are the additions and extension to the entries contained in the Schedule to the Purchase Tax (No. 2) Order 1964. [Proprietary products, where known, are given in brackets.]

Additions to Head III: — ϵ -amino-hexanoic acid [Epsikapron]; carbamazepine [Tegretol]; carbenoxolone, and salts thereof [Biogastrone]; indomethacin [Indocid].

Extension:—In Head III, the entry relating to "Phenylephrine hydrochloride" is amended to "Phenylephrine hydrochloride, whether or not mixed with isoetharine mesylate and thenyldiamine hydrochloride" [Bronchilator].

SANDWICH COURSE:

A group of pharmacy students from Robert Gordon's College, Aberdeen, photographed during a recent one-day visit to the plant of Pfizer, Ltd., at Sandwich, Kent. The students toured production areas and the quality control and analytical control laboratories.



Drugs Charter

MINISTRY COMMENT ON PRESS REPORTS

COMMENTING on Press reports, particularly a front-page article in the *Daily Mail* on April 26 that the Government has a "new safety drugs charter," a Ministry of Health official said "the Minister of Health has stated in reply to recent Parliamentary questions that a review is at present being carried out of legislation relating to medicines. So that interested professional and trade organisations might be sounded, a series of provisional proposals were circulated by the Minister for discussion and comment in 1964. In view of the provisional nature of the proposals they might well be modified in the light of the comments received by the Ministry and also on a result of the detailed revision, which is still proceeding."

Cosmetics are not Foods

MANUFACTURERS PROTEST AT LINKAGE

THE Toilet Preparations Federation and Society of Cosmetic Chemists announce that they are concerned about opinions expressed that toilet preparations should be linked with toilet soap and food for proposed legislative purposes. Specific reference in Parliament has been made to artificial colouring and flavouring but there is a tremendous difference between the two categories, food being totally ingested. The organisations also emphasise that there is no evidence of absorption of colour through the skin. In particular there is no recorded case anywhere in the world of permanent harm caused to any woman as a direct result of the use of lipsticks. It is suggested that confusion exists in people's minds be-

tween the effect of hazardous substances and allergies. Examples of adverse physiological reactions to lipstick and perfumes might be found, but that would also be true of nylon stockings, oysters or strawberries. The organisations believe that the introduction of over-elaborate Governmental control is not warranted, "for it is clearly impracticable to legislate for personal idiosyncrasy." To deal with two such diverse items as food and toilet preparations in one Act seems, they say, illogical.

British Standards

NEW AND DRAFT SPECIFICATIONS

AMONG specifications newly issued by the British Standards Institution are:—B.S. 3822:1965, sizes of sensitised photographic colour materials (sheets, machine rolls and bulk rolls) used in reversal and negative/positive processes (5s.). It deals with sheets, machine rolls and bulk rolls used in reversal and negative/positive processes and gives limits for cutting sizes and squareness. B.S. 3875:1965, optical spectrophotometric cells (6s.), gives dimensions and tolerances for cells, with and without stoppers, suitable for use in the ultra-violet, visible and near infra-red regions of the spectrum over specified wavelength ranges. B.S. 3878:1965, flexible PVC sheeting for hospital use (7s. 6d.) deals with unsupported PVC sheeting, general purpose and antistatic types in the thickness range 0.003 to 0.035 inch. The specifications include physical properties, colour fastness, print adhesion, surface resistivity and resistance to various media. Copies may be obtained from The Institution at 2 Park Street, London, W.1. The Institution has also prepared a special supplement No. 1:1965 for B.S. 410:1962 concerning I.S.O. proposals relating to test sieves (2s. 6d.). Among the new work started is a revision of B.S. 684, methods of analysis of oils and fats, a new specification for the marking of control settings on hearing aids, and another dealing with the basic features of an artificial mastoid for the calibration of bone vibrators used in hearing aids and audiometers. Included in the list of draft standards circulated for comment are:—D65/1565, cyanmethaemoglobin (haemoglobinocyanide) solution for photometric haemoglobinometry; D65/1708, dimensions of sprockets for 8 mm. perforated film; D65/1993, erythrosine B.S. for use in foodstuffs; D65/1994, indigo carmine for use in foodstuffs; D65/1995, green S for use in foodstuffs; D65/1996, blue VRS for use in foodstuffs; D65/3099, B.S. 1133 packaging code, section 12: Cushioning materials (other than packaging felt) and D65/3280, stearyl tartrate for use in foodstuffs.

Animal Diseases

REPORT FOR 1964

IN 1964 Great Britain remained free of foot and mouth disease. Outbreaks of swine fever were down by two-thirds compared with 1963 and there was less fowl pest. Bovine tuberculosis, also, was at a low level. On the other hand outbreaks of anthrax were up by about

one-half. Detailed information is given in the statutory return, 1964, of Proceedings under the Diseases of Animals Act, 1950, published by the Ministry of Agriculture, Fisheries and Food and Department of Agriculture and Fisheries for Scotland. (H.M. Stationery Office, price 1s. 3d.). The report confirms that Great Britain has now been free from foot-and-mouth disease since June 1962, and that outbreaks of swine fever fell from 1,243 in 1963 to 402 in 1964. The increasing effectiveness of the fowl-pest vaccination policy in England and Wales is demonstrated. 1,221 outbreaks occurred in the first three months of the year (closing months of the first winter of vaccination), 508 in the second three months, and only 447 in the final six months.

Photographic Equipment

PRODUCTION IN OCTOBER-DECEMBER 1964

VALUE of deliveries of photographic equipment (including sensitised materials) in the fourth quarter of 1964 was, at £18.38 millions, two-fifths greater than a year earlier; home deliveries increased by about one-quarter, and export deliveries (£7.24 millions) by four-fifths. Since the second quarter of 1964, document copying machines have been included. Home deliveries of miniature photographic cameras were, at £257,000, again much up on a year earlier and there were increases also for standard cine cameras, image projectors and non-standard cine projectors. Home market deliveries of other cameras and projectors and other cinematographic apparatus were lower. There were increased export deliveries of photographic cameras and image projectors. Deliveries of all sensitised materials were well above the level of the fourth quarter of 1963.

Adverse Drug Reactions

CALL FOR WORLD MONITORING SYSTEM

THE United States authorities announced that, at a meeting of the World Health Assembly in Geneva, Switzerland, on May 4, they intend to call for the establishment of an international system of monitoring and reporting on adverse reactions to "ethical" drugs. President Johnson, in a statement, claimed that the U.S. had already an excellent national system of such monitoring and that it could be expanded into an international system.

Statutory Committee

A NUMBER OF DECISIONS

THE Statutory Committee of the Pharmaceutical Society is meeting at 17 Bloomsbury Square, London, W.C.1, at 10.30 a.m. on May 11 and 12 to consider the decisions to be given in: five inquiries adjourned from March 1964; two inquiries adjourned from April 1964; and two inquiries adjourned from December 1964.

Prices Board

TO PROBE PAST INCREASES ALSO

AN indication that the Prices and Incomes Board may examine not only future price increases but also those

already made was given by the Minister of Economic Affairs (Mr. G. Brown) when he addressed an Amalgamated Engineering Union conference in Blackpool on April 27.

IRISH BREVITIES

THE REPUBLIC

MESSRS. H. P. Corrigan, D. J. Kennelly and M. J. Mulreany (member of the Pharmaceutical Society of Ireland Council) have been reappointed by the Minister of Health to the reconstituted *Comhairle na Nimheanna* (Poisons Board). Mr. J. G. O'Neill M.P.S.I., has also been reappointed.

THE NORTH

MR. M. E. O'Hare, Londonderry, gave a repeat of his lecture "The Trouble with You" originally delivered at the 1964 Ulster Chemists' Association conference (see C. & D., June 6, 1964, p. 579) to a meeting of U.C.A. members in Belfast on April 8.

H.M. STATIONERY Office, Belfast, has published Poisons Regulations, dated February 3 (S.R. & O. Northern Ireland, 1965, No. 27, price 3s. 6d.), consolidating certain earlier Regulations. Also published are Dangerous Drugs Regulations, dated February 5 (S.R. & O. Northern Ireland, 1965, No. 30, price 1s. 9d.), which incorporate changes consequential upon the Dangerous Drugs Act, 1964.

OVERSEAS NEWS

KENYA

Pharmacy School Planned

THE Kenya Government is reported to be planning to set up a school of pharmacy so soon as the necessary finance has been found and with the help of leading manufacturers.

UNITED STATES

Sequential Oral Contraceptive

THE Food and Drug Administration has authorised Mead Johnson & Co. to market the first sequential oral contraceptive in the United States. The product is understood to have the trade name Ovin.

SPAIN

Health Education and Pharmacists

AN international meeting to review the rôle of the pharmacist as a health educator has been arranged in conjunction with the sixth International Conference on Health and Health Education, Madrid, Spain, July 10-17. The American Pharmaceutical Association's executive director (Mr. William S. Apple), who is the official representative of the International Pharmaceutical Federation, is presiding at the meeting. Mr. P. Rolland (founder of the French pharmacists committee on health and social education) is honorary chairman. Professor Ponte, Italy, will discuss the rôle of the Federation's Commission (*Techniques de la Pharmacie d'Officine*), in establishing the pharmacist as a health educator. Mr. J. A. Herrero and Mr. A. O. Wilund (director, Swedish Apotekarsocieteten), will review public education methods employed by pharmacists.

NEWS IN BRIEF

BOOTS, Ltd., are closing all of their "booklovers" libraries by February 5, 1966.

CARDIFF Royal Infirmary, Cardiff, Glam, closed down its out-patient dispensing department on April 26 owing to understaffing. Two pharmacists, one member of the clerical staff and one store-keeper are required to bring the staff up to strength.

THE Ministry of Agriculture, Fisheries and Food has issued a revised advisory leaflet (No. 93) dealing with Brucellosis (Bovine Contagious Abortion) (H.M. Stationery Office, price fourpence). In the series on pests and diseases the Ministry has issued leaflet 34 Plum Aphids (H.M. Stationery Office, price fourpence).

PRIZE-winning and unsuccessful entries in the 1965 "Starpacks" competition, organised by the Institute of Packaging, will be on show at the International Packaging Exhibition, Earls Court, London, S.W.5, May 19-27. Awards are being presented at 6.30 p.m. on May 24 by Sir Harold Roxbee Cox (president of the Institute).

FOLLOWING the reorganisation of Executive Councils in the Greater London area, the County of Middlesex Pharmaceutical Committee has been renamed the Middlesex Pharmaceutical Committee. The new officers are:—*Chairman*, S. J. Turner; *Vice-chairman*, W. J. F. Laxton; *Treasurer*, R. H. Rowson; *Secretary*, J. A. Stewart. The address and telephone number are unchanged (6 Southampton Place, London, W.C.1. CHA 8512).

THE Wellcome Trust has contributed £50,000 towards the cost of a new seven-story building to house the department of pharmacology of the University of Edinburgh. Also given is £17,000 for the establishment of a fine structure research unit in the sub-department of veterinary anatomy, Cambridge. A new electron microscope is being installed to make possible an intensified programme of fundamental research on animal tissues.

SPORT

Golf

IRISH CHEMISTS' GOLFING SOCIETY.—In fine weather conditions, over forty members played at Baltray on April 21 for prizes presented by P. C. Cahill & Co., Ltd. *Results*: (Stableford competitions) *Class A*, P. Maher (7) 35½; J. A. Pattison (12) 34½; L. Maher (10) 32½. *Class B*, P. Twohig (15) 34½; B. Cullen (18) 32½; T. Hogan (15) 32½. The prizes were presented by Mr. J. Holland (managing director). The next outing is to Woodbrook on May 6.

LOCAL OFFICERS

PHARMACEUTICAL COMMITTEE

London.—*Chairman*, H. R. Edgecombe; *Vice-chairman*, I. W. S. Lowe; *Secretary*, D. V. Smith, 34 Cursitor Street, London, E.C.4.

PHARMACEUTICAL SOCIETY

Carmarthenshire.—*Chairman*, W. A. Evans; *Vice-chairman*, B. Jones; *Treasurer and Secretary*, G. Jones, Pharmaceutical Department, West Wales General Hospital, Glangwili, Carmarthens.

Chester.—*Chairman*, J. Williams; *Vice-chairman*, L. Edwards; *Treasurer*, R. H. Wright; *Social secretary*, Miss M. G. Short; *Secretary*, S. D. Littlewood, "Grasmere," Chester Road, Kelsall, Chester, (Telephone: Kelsall 354.)

TOPICAL REFLECTIONS

By Xrayser

Council election

The duties of a member of Council of the Pharmaceutical Society are arduous and unrewarding. They call for considerable sacrifice of time, for there is more than merely attending the monthly meetings at Bloomsbury Square. To be an asset, and not a passenger, there must be a sacrifice of leisure to the pursuit of a thorough grasp of the subjects down for discussion, and that involves—or should involve—not only the close study of current memoranda, but the ability to think clearly and objectively. The field is wide, and members of special committees have to be able to relate the more specialised work of their particular committee to the overall picture of what has been described as "global strategy." And a perfect comprehension of the whole canvas is only acquired by a study of the history of events leading up to the current situation. The position calls for qualities of no mean order—a deep knowledge, for the Council table is no place for superficiality; a sound and balanced judgment; an appreciation of the possible ultimate outcome of decisions reached, which does not permit of haste or expediency. All of that demands close study and calls for honest endeavour in which the individual as such is of little account. It demands complete integrity—something indeed of the character "whose armour is his honest thought, and simple truth his utmost skill." Those, then, are some of the attributes I look for when I make my choice of Council member and I have had, on the present occasion, to study no fewer than nineteen policy statements to make up my mind. I have done so, as I hope you have. But I am assisted in my assessment by my personal knowledge of some of the candidates—by having heard them at pharmaceutical meetings, by having talked to them at Conferences and other pharmaceutical gatherings, and having watched their activities and studied their expressed opinions through the medium of the pharmaceutical Press. And when I have taken the many factors into consideration, I find that the task of voting is not so difficult after all. I hope that you will find the same.

Confectionery

The account of the making of sugar confectionery (pp. 424-25) awakened some early memories of my youth, for in my daily comings and goings I passed a plain and unpretentious building that emitted the most heavenly scented aromas, wafted gently through ventilators into the outside world. One day it would be lemon, another peppermint and, yet another, a breath of roses which seemed to bring with it all the enchantment of the East. On such a day one conjured up a picture of bearded figures in long robes, and young ladies looking out seductively over yashmaks. The illusion lasted for a long time until the day, alas, when I passed the factory just as the workers finished for the day. There was no sign of an Eastern potentate or of a princess among them. I visited the scene in later years, but the hand of progress had descended, and the firm had been swallowed by another and larger, with the same ease which attended the ingestion of their delectable products. What had, in my boyhood, seemed to be immortal, set a pattern that is commonplace today. But while commonplace, it is not yet, fortunately, universal. There can be few firms today remaining in the same family hands from as long ago as 1780, and pharmacy, I am sure, has a warm regard for that particular firm which bears the commonest surname in the English language. I congratulate them on their longevity and their independence.

Correction

I have to correct a slip which I made last week. In writing on the minority report referred to by Mr. L. Pavitt in a debate in the House of Commons, I failed to observe that when Mr. Pavitt spoke of the Dunlop committee he obviously intended the Cohen committee. I followed his lead and, despite the Bard's comments on "what's in a name?", it seems appropriate that the error should be admitted and corrected. It was to the Cohen report that Messrs. Grosset and Linstead indicated their dissent.

Hospital Pharmacists' Week-end School

CHEMISTRY: PHARMACOLOGY: TOXICOLOGY: MANUFACTURE

FOURTH week-end school of the Guild of Public Pharmacists, held in London, April 23-25, brought together close on 150 hospital pharmacists from England and Wales, Scotland, Northern Ireland, and the Channel Islands.

The Guild's president (MR. E. J. FITCHETT) opened the proceedings on Friday afternoon, introducing as guest speaker MR. A. W. FRANCE (permanent Secretary, Ministry of Health). Mr. France acknowledged help given to the Department by the Hospital Pharmacists' Consultative Committee, suggested that the greatest contribution of hospital pharmacists was in seeing that proper use was made of drugs and providing a necessary corrective to manufacturers' literature, and outlined the Government's ten-year hospital-building programme which, he said, "will be with us for years."

Chemistry of Antibiotics

First business session was concerned with the chemistry and pharmacology of some newer therapeutic agents, especially antibiotics and steroids. DR. J. N. T. GILBERT (lecturer in pharmaceutical chemistry, University of London) dealt with their chemistry, placing the origins of antibiotics in the "historic experiments" of Dubos in 1937, leading to the production of a crystalline material (gramicidin) lethal to staphylococci. He classified antibiotics into those obtained mainly or partly from amino acids ("simple": cycloserine, penicillin, azaserine and 6-diazo-5-oxonorleucine (DON); and cyclic polypeptides: polymyxin B, colistin, gramicidin, bacitracin, valinomycin, capreomycin, viomycin); those from sugars (streptomycin, kanamycin, the neomycins and paromomycin); from acetate (the tetracyclines, the related macrolide antibiotics such as magnamycin, erythromycin, and the polyene antibiotics nystatin and amphotericin B); and those of miscellaneous origin (for example the steroidal antibiotic fusidic acid). Problems associated with antibiotics were first of isolation and separation, then of chemical examination to establish structure. In that phase physical techniques (ultra-violet and infra-red, nuclear magnetic resonance spectroscopy and mass spectrometry) were increasingly important and the older techniques of degradative organic chemistry took second place. Next phase was successive modifications of structure to improve or extend activity or reduce side effects.

The penicillin molecule might be considered as being built up from the amino acids valine and cysteine, both precursors in its biosynthesis. It could be regarded as consisting of two ring systems—the small four-membered β -lactam ring and the five-membered thiazolidine ring. That basic ring system had been named β -amino penicillanic acid, and the derived penicillins, all amides, were named substituted amidopenicillanic acids. Penicillinase-resistant penicillins included methicil-

lin, oxacillin, cloxacillin, ancillin and nafcillin. Those with reduced incidence of allergic reactions included allylmercaptomethyl penicillin, while the cephalosporins were among compounds more active against Gram-negative organisms.

The semi-synthetic penicillins had been produced in the search for compounds more resistant to acids and to penicillinase, causing fewer allergic reactions and having broader spectra of antibacterial activity.

Dr. Gilbert compared diagrammatically the main steroidal hormones (oestradiol, progesterone, testosterone, cortisone, corticosterone) and related progress in their development to the finding of new botanical source materials (diosgenin, hecogenin), in place of cholesterol, with its limited yield. "In bygone days," he wound up, "micro-organisms were generally considered a scourge. Today they are fast becoming of inestimable benefit to mankind."

Pharmacology of Steroids

DR. M. A. STOCKHAM (lecturer in pharmacology, University of London), dealt principally with steroid pharmacology. The steroids presented, he said, a model pattern of research on a series of drugs. There were literally thousands of biologically active steroids, and amazingly many potent and diverse effects could be demonstrated from relatively simple modifications of the steroid nucleus. First suggestion that oestrone, one of the naturally occurring oestrogens, contained the steroid ring (similar to that occurring in sterols) came in 1932, and shortly afterwards progesterone was synthesised from stigmasterol, a naturally occurring plant sterol; discovery that microbiological oxidation could be used to hydroxylate sterols at the 11 position brought much better yields of many compounds. In 1949 cortisone was shown to cause remission of rheumatoid arthritis, quickening the pace of research and the synthesis of new steroids. Besides the five major groups of biological activity (androgenic, oestrogenic, progestogenic, corticoid and mineralocorticoid), steroids synthesised since 1950 produced other effects, including antiviral, antibacterial, anabolic, lipodiatic, and actions on the central nervous and circulatory systems.

Pharmacological screening of a steroid might be complicated by its wide spectrum of activity, while even compounds of weak intrinsic activity might block effects of the potent natural hormone. Many steroids had profound biological effects, and tests had therefore to include investigations of specificity. Fortunately most actions of androgenic compounds could be investigated in laboratory animals, and the speaker outlined some of the methods in use.

In many debilitating illnesses the anabolic steroids could build up a patient; in burns they could reduce

protein loss; and steroidal compounds had been useful in carcinomatosis. In kidney conditions they both reduced tissue breakdown products presented to the kidney and directly stimulated the repair of kidney tissue. The ratio of anabolic to androgenic activity in a compound was important, and he described typical experimental ways of investigating it on animals; results had shown good correlation with clinical observations.

Progestational agents in conjunction with oestrogen were the basis of oral contraceptive tablets. When a compound showed promise of being a potent progestogen its actions on the pituitary and the ovary, on pregnancy and fertility, had to be studied. In later clinical investigations of its pharmacology the indices usually examined were delay or induction of menses, inhibition of ovulation, thermogenic response, endometrial studies, and Papanicolaou vaginal smears; tests were made on liver function and the histochemistry of various organs before release of the drug for clinical trial. Together, progestogens and oestrogens provided the most efficient contraceptive device yet discovered, but aspects that warranted further study included thrombo-embolic conditions, liver toxicity, the effect of prolonged therapy on the menopause, possible binding to blood-borne compounds, and immunological responses.

Of the synthetic steroids the corticosteroids had received the most attention in the past decade. Anti-inflammatory effects had been recognised as being related to glucocorticoid activity, so most work had been done on reducing mineralocorticoid effects without reducing glucocorticoid action. That objective had been achieved in dexamethasone.

Oestrogenic activity was not confined to molecules possessing the steroid nucleus: stilboestrol and chlorotrianisene also had such activity and were used clinically. Most potent oestrogen was ethinyl oestradiol.

In the adrenocorticotrophic hormone (ACTH) "pure" academic research to elucidate structure had yielded a drug for clinical purposes. ACTH could ameliorate rheumatoid arthritis but patients acquired resistance to it and it caused hypertension. A smaller synthetic hormone of twenty-four amino acids (against ACTH's thirty-nine) had caused no ill effects in patients hypersensitive to commercial ACTH. The speaker dealt briefly with gastrin and bradykinin.

Questions

MR. M. CRANE, South Shields, who asked what was the norm in comparing anabolic activity, was told that the standard was testosterone itself. MR. M. G. O. MANNING, Lincoln, asked whether the affinity of the tetracyclines for metals was for particular metals; the reply was "especially for calcium." MR. J. E. COCKING, Shef-

In acute bronchitis when the question is...

HOW TO ENSURE that a patient with a feverish condition takes sufficient essential fluid and calories. Very often in such circumstances you are the person looked to for an answer.

The patient with acute bronchitis, being pyrexial, often cannot face ordinary food. Nausea may be present, and coughing bouts may result in retching and vomiting. Yet fluids and some nutriment that will spare protein and provide energy are essential.

What, then, can you do to help these patients? A liquid glucose drink will very often provide the answer, and just such a drink has been in everyday clinical use for many years . . . Lucozade. So, when the question is "What shall I recommend to help this patient?" remember that Lucozade's value has been fully established over a long period of time.

Just why it is so suitable under these circumstances derives from its formulation:—

❏ Lucozade is basically a solution of liquid glucose which contains a number of carbohydrates, of which dextrose (glucose) is only one. The others (maltose, oligosaccharides and higher saccharides) comprise more than 80% of the total weight of the constituents. It is erroneous, therefore, to think of liquid glucose as being dextrose in liquid form. For instance, it is not as sweet as dextrose (or sucrose). The relative sweetnesses are: liquid glucose 23, dextrose 74, (sucrose 100).

❏ In man liquid glucose has been shown¹ to produce a 10% blood sugar rise in 5.1 minutes, compared with 7.2 minutes for dextrose and 8.3 minutes for sucrose. It spares protein and provides fluid. One large bottle of Lucozade supplies 546 Calories (except in Northern Ire-

land where, because of an increased liquid glucose content, it provides 650 Calories).

❏ Liquid glucose has a much lower osmotic pressure than either dextrose or sucrose and it is for this reason, together with its lower sweetness level, that it rarely causes nausea or stomach upset, even when taken in considerable quantity. Moreover, Lucozade is pleasant to take. It has a mild citrus flavour, is lightly carbonated and acidified with lactic acid.

❏ Lucozade is, therefore, invaluable—when fluid intake has to be increased; when a patient cannot face a normal diet or has difficulty in swallowing; in any gastro-intestinal disorder; pre- and post-operatively; in hepatitis; and in cases of fatigue due to a temporary drop in the blood sugar level.

¹ Lancet, 1959, i, 485.

BIOGASTRONE

(carbenoxolone sodium)

now free from purchase tax

From 23rd April 1965 Biogastrone has been exempt from purchase tax*—further confirmation of the important position that it now holds in the treatment of gastric ulcers. A British discovery, Biogastrone has aroused considerable attention and its success has been recorded in journals as diverse as Time Magazine, The British Medical Journal, The Lancet and the New Scientist.

A recent editorial synopsis in the Specialist Journal Gut, described Biogastrone as the only drug therapy for gastric ulcer which has been demonstrated conclusively to accelerate healing. The medical profession is becoming increasingly interested and will prescribe Biogastrone more and more. It is wise to prepare *now* for the growing demand.

Tablets of 50 mg. available through your usual wholesaler in containers of 24, 100 and 500.

* This Direction made under Section 17 (3) of the Purchase Tax Act 1963, exempts Biogastrone from purchase tax as though it were added to Head III of the Schedule to the Purchase Tax (No. 2) Order 1964, under the description Carbenoxolone and salts thereof.



**Berk Pharmaceuticals Limited,
Catteshall Lane, Godalming, Surrey**

'Biogastrone' is a trade mark

field, was told that acquired resistance to corticotrophin was experienced to a far less extent with the newer, purer products available, since it probably arose from proteins present in the earlier products. To a question whether stilboestrol was useful in itself or as hormone precursor, the speaker said that the distance apart of the "O" functions was comparable to the interval in the oestradiol molecule.

Clinical Toxicology

MR. W. G. SMITH presided at a session on toxicology, at which the speaker was DR. SIDNEY LOCKET (senior physician at Oldchurch Hospital and physician in charge of the North-east Metropolitan Region barbiturate poisoning centre). Dr. Locket defined his field as the study of poisoning in all aspects that concerned the clinician. He approached his subject from the aspects of prevention, diagnosis and treatment.

In "therapeutic" poisonings two patterns were encountered, the first from drugs exerting their typical pharmacological action and the second from effects of hypersensitivity (allergic or non-immune reactions) not characteristic of the drugs — effects that were infrequent and unpredictable and could not be reproduced in animals. There was no absolute scale of toxicity. Factors influencing it included the physical form of drugs, their dose and route of administration, the race, age and sex of the patient, inherited genetic factors, the patient's nutritional state (including nature of diet, state of health, size of community, time of day, even climate). Too few toxic conditions were recognised as being due to therapy. No records were systematically kept of the side effects of drugs. Such disturbances as loss of appetite, anxiety, restlessness, headache, for too long had been accepted and they were generally not noticed until they became gross. It would be helpful if every patient had a drug-effect and toxicity chart.

One important class of toxic substances operated on the enzyme systems either to inhibit or to excite, or they might compete with a metabolite or cause hormonal abnormalities, and it had to be allowed for that certain enzyme systems might be absent in certain racial groups. Substances with teratogenic effects were an important class, while phenacetin high-lighted the problem how to identify damage comparable with that caused by an ordinary disease. Poisoning due to lead produced in children symptoms atypical of the effects in adults and might cause permanent impairment of the intelligence.

In a second paper, Dr. Locket gave a twelve-point procedure of treatment. First step was to prevent further exposure to the toxic agent. Rescuers must wear appropriate safety apparatus. Respiration had next to be attended to, then the stomach emptied, circulation maintained, pain relieved, a specific neutralisation procedure applied if known, and action taken to sustain the patient or to cause diuresis. Fluid intake must be kept adequate, involving

perhaps the use of the artificial kidney, and some means must be found to neutralise a poison that could not be eliminated from the body.

At question time MR. CRANE asked as to alternative analgesics to phenacetin and paracetamol. The speaker, while indicating no alternatives, stressed that the use of an analgesic had to be weighed against the severity of the rheumatic or other condition for which it was being prescribed. MR. J. R. PEATTIE, London, pointed out that the Poisons Information Centres passed on information to any hospital pharmacist who applied for it.

MR. G. E. MCILHAGGER, Belfast, suggested that a drug identification system would be of benefit in dealing with cases of poisoning, and MR. J. G. ROBERT, Chester, thought the number of people handling ward stocks introduced a risk that should be reduced.

MR. J. A. BAKER, London, also pointed out shortcomings in the ward pharmacy system in hospitals. MR. J. D. CRONIN, Sheffield, was told that peritoneal dialysis had a useful place if accepted as less effective than the artificial kidney.

To Make or Buy ?

Subject of the third and final session was "To Manufacture or to Purchase?" or, as MR. D. F. SMITH, who presided, put it, "to make or buy?" There were four speakers. The first, a voice from the industry, was DR. B. WILLS, who said that factors influencing the decision included facilities for control, choice of alternatives, availability of raw materials, presence or absence of skilled personnel, and—most important—quality of the finished product. Risks that had to be faced involved instability of the drug in its physical state, or in its effects, and risk from wrong choice of packaging. The hospital pharmacist's dilemma was that, while undoubtedly capable of manufacturing or supervising manufacture of the majority of products used in the department, he needed the equipment, complete details of formulation, and an adequate service of control. Four production stages needing control were selection of materials (grade, supplier, physical standards, and limits of impurity), formulation and stability (involving trial formulations and storage tests), processing of development batches (including sampling and testing), and finally manufacture, calling for many specialist skills. Many hospital pharmacists might think those considerations not relevant to the product they made, but standard reference methods were an insufficient guide and might even be dangerous if followed without other knowledge. They seldom detailed the method and never described the equipment. Purchase of raw materials on warranty had its risks, and each batch ought to be tested for refractive index, pH, bulk density, and uniformity. Manufactured tablets needed to be tested for uniformity of weight and for disintegration time; injection fluids for sterility and freedom from pyrogens. The need for microbiological assays and for carrying out pyrogen tests would seem to make hos-

pitals unsuitable places for manufacture. It was possible to make it appear that the cost of producing each unit was less than that of the same unit bought from a manufacturer, but to be comparable the costing must take into account labour, maintenance costs, etc.

The second speaker, MR. W. G. BROOKES (Nottingham City Hospital), said the hospital pharmacist was responsible for delivering the right medicament, in the best condition, in the right quantity, at the most economical price. Decisions to manufacture in hospital were usually taken on economic grounds, which was perfectly proper provided the basic requirements (ingredients, staff and equipment) were available. He believed the hospital pharmacy should manufacture all it could, but that the finished product must always bear comparison with the best from industry. Quantity required and number of users had to be taken into account, and the area or region might have to replace the single hospital or group as unit for manufacture. The department ought also to be organised to maintain staff interest not only by adequate remuneration but also by adequate stimulation, and manufacture could help supply that need. In quality control it was unreasonable to require from manufacturers tests the hospital department would not apply to its own products. A test that was essential should be done by both.

"Largely Academic"

The third speaker, MR. GEOFFREY BRYAN (Middlesex Hospital, London), said the subject of the symposium was becoming largely academic because staff shortages would soon make it impossible to manufacture in hospital departments. There was some place for local manufacture but the group pharmacist had the responsibility of justifying it on the grounds both of economic advantage and the interests of the patient. The question should be repeatedly examined because manufacturing conditions were continually changing. Manufacturers' costs included items not present in hospital costing such as advertising and sales, transport and profit. In a large hospital there was a strong case for making sterile intravenous infusion fluids but no case, he thought, for making standard ampoules. He gave a detailed breakdown of costs of producing 40,000 half-litre bottles of intravenous solutions in his own department, proving a considerable financial saving to the hospital. While he was not able, he said, to make so good a case for making non-sterile products, he doubted whether even the manufacturers were able accurately to analyse their costs for those products. He did not believe that the majority of standard tablets could be produced economically in hospitals, but there were advantages in having tableting machines in the hospital pharmacy.

The fourth and final speaker, MR. J. W. HADGRAFT (Royal Free Hospital, London) thought that the future of hospital pharmacy was at stake in the answer to the question in the symposium title. None would dispute that sophisticated modern drugs had increased the

need for quality control, but it was also to be noted that industry soon dropped the manufacture of a product that ceased to be profitable. Despite the complications, the larger hospitals should be equipped both for production and for quality control, since the hospital pharmacist had many opportunities of investigating formulation problems denied to the industrial pharmacist, who was in any case hardly likely to apply himself to improving official formulas. Often the hospital pharmacist was the first to find a fault in the formulation of a manufactured product. Hospital pharmacists should look critically at existing formulations (the disintegration test for tablets was an example), and should help in devising *in vitro* tests that would give better clues to *in vivo* effects.

In subsequent discussion, MR. M. CRANE thought that a different factor governed the costing of production in the smaller hospitals, since "the labour was there already." The hospital authority could be asked for an overhead figure for the department, and the decision whether to manufacture should take into account cost, convenience, and duty to staff (including provision of best possible instruction). MR. C. R. DIMOND, Swansea, thought the question could not be decided on a national basis. As the distance of a hospital from manufacturing sources increased, so did the need for emergency production, and some products had to be made irrespective of cost. MR. P. CREES, Birmingham, "coming as he did from that city," felt he would be accepted as being "as quality-control-conscious as any." His view was that less quality control was necessary in a hospital department than in a factory because the proportion of qualified labour was higher. He agreed it was not profitable to produce ampoules, in hospital, but industry appeared also to be reaching the same conclusion that ampoule manufacture was unprofitable, so that in the end the hospital department might be forced into it. MR. PEATTIE said that facilities existed in hospitals for producing specific products and if present should be used to the full, both for efficiency and for the acquirement of technique. Saving on the special products would offset the cost of using the machinery for routine purposes.

Expiry Dates

MR. J. G. B. PARKER, London, accused manufacturers of being reluctant to label their products with expiry dates. Quality control, he declared, was not a process that ended when the manufacture was complete but was continuous until the product was administered. MRS. M. M. H. WRIGHT, London, considered that high standards of cleanliness and accuracy in the pharmacy department rendered much quality control unnecessary.

Commenting on the discussion, DR. WILLS said that what constituted a "reputable" manufacturer was a matter of pharmacists' experience—he was one that "did not fall down on test." It was true that the ratio of qualified to unqualified was higher in a hospital department than in a factory but

in his own company all critical stages of production were under direct supervision of qualified staff, and defects brought to light in the factory were never those of gross error—they were things that would also have escaped the hospital pharmacist. On shelf-life, a manufacturer accumulated information from accelerated storage and field tests. A broad figure could be arrived at on that basis but a manufacturer's guarded figure might be taking into account doubtful storage conditions at the end-point of distribution. Control should relate to every batch in manufacture,

and to every load in sterile production.

MR. HADGRAFT said that in sterile solution preparations the exclusion of pyrogens depended more on technique than on tests. He admitted no antagonism to industry. As chairman of the Guild's research committee he put in a strong plea for more research by hospital pharmacists. MR. BRYAN disagreed strongly that costs in small hospitals were on a different basis from those in the larger hospitals. MR. BROOKES considered that the discussion supported his belief in hospital production on a regional basis.

HEALTH CONGRESS

National Health Service "the greatest social experiment"

THERE must be some other more dignified method than the drug testing scheme for ensuring that the public receive the quantity and quality of drugs that the Minister pays for, said MR. H. STEINMAN (president, Executive Councils Association (England)) when he addressed a section of the Royal Society of Health Congress at Eastbourne on April 26. Mr. Steinman was also of the opinion that pharmacies in the United Kingdom could be used far more "for offering technical information to all practitioners — for advice to the public — as a centre for simple chemical tests — and as a means for fostering health education."

"Tensions" Still to be Eased

He proclaimed himself a great believer in the National Health Service, considering that it was still the greatest social experiment the world had ever seen and the envy of many other nations. "Of course it is subject to criticism here and there, but surely these criticisms should encourage us to an even better service. Success always follows reverses provided we profit by our experiences." Few national activities had greater "built-in tensions" or causes of tension than the National Health Service. He believed there must be a reappraisal of the service to determine the most satisfactory way of distribution of professional manpower; to relate more directly, and with effective publicity, the cost of the Service provided and the payment made by the individual, and to relate the payment made to the professions to the actual service rendered to the public. It was essential, too, that certain principles should be maintained. No one must be denied medical attention because he or she could not afford it. The effective voice in decisions affecting the professional worth of a profession must be that of the profession itself. Another principle was that the Minister had the right to expect the profession to accept the responsibility for maintaining the highest professional standards among its members. The Minister must provide the conditions under which a profession could do its work competently, and the profession must create and maintain standards of competent work within those conditions.

Mr. Steinman's remarks preceded a symposium on "Reflections on the National Health Service" in which the academic view was presented by

A. J. WILLCOCKS, B.Com., Ph.D. (senior lecturer in social science, Nottingham University), who called for an extensive review of the National Health Service either by a Royal Commission or by a Select Committee of the House of Commons. What was needed was a national policy instead of short-term plans. The Minister of Health appeared to be content merely to be paymaster and financial controller to an "inherited, illogical collection of pre-existing health service organisations." The speaker also suggested there should be a complete survey of the method of obtaining and collating statistics within the Service, for he did not think it was possible to plan or organise without adequate data.

Health Progress Reviewed

The Congress guest speaker at the opening was LORD SHAWCROSS (chairman of the Medical Research Council), who spoke on "Progress in Health: Applications of Medical Research." On diet, he said there had always been food fads and there was much unscientific talk on the relation of certain foods to arterial disease and coronary thrombosis. Fluoridation was the "source of emotions as unrealistic as those aroused by vivisection." Admitting an interest in pesticide problems, he pointed out that, if such preparations were not available, deaths from starvation or malnutrition would vastly increase. Each day 8,000 people died of malnutrition. Yet the possibility of long-term ill effects of pesticides on man must be the subject of constant research and vigilance. Referring to the control of infectious diseases, Lord Shawcross mentioned the dramatic control that had been achieved in infant mortality, diphtheria and tuberculosis. However, drug resistance was one of the major snags in the use of antibiotics. "There are no doubt a great many penicillin-sensitive people in this country. Sensitivity tests ought to be made before treatments."

PRESCRIPTION POSER

AS the Kentish pharmacist who sent it said of the prescription here shown, "It beat the lot of us. I had to 'phone'—"

R,

*General 1 Oct.
in time with*

EVANS MEDAL 1965

Presentation in London

THE Evans medal 1965 was presented in London on April 24 to Mr.



H. Grainger by Mr. C. W. Robinson (a director, Evans Medical Supplies, Ltd.) on the recommendation of the selectors, a committee of the Guild of Public Pharmacists.

Mr. Robinson recalled that he had had the privilege of

making the first presentation of the medal in the Apothecaries' Hall seven years previously. No choice could have given him greater personal satisfaction than that of Herbert Grainger "in this special year, when he has brought honour to hospital pharmacy and to this country by being chosen as head of the technical secretariat of the European Pharmacopoeia." Another reason the award was so fitting was that Mr. Grainger had held the highest voluntary office which the profession in Britain had to bestow, that of president of the Pharmaceutical Society. Each stage of Mr. Grainger's career had reflected his qualities of diligence, sense of public responsibility and honourable service. He would stress yet another facet of Herbert Grainger's character: his humanity. That was a quality in leadership to be treasured wherever it was found, for it was essential to the real stability of a nation and its institutions.

Medallist's Address

In his address as medallist, Mr. H. S. GRAINGER said there were two honours the Guild could bestow: honorary membership and the Evans medal, and the Guild had been kind enough to arrange for both to be conferred upon him at the same time.

It was through picking up a copy of the Guild's journal in the college library when he was a student that he first became aware that such a body existed. At that point he had set his intentions towards a career in hospital pharmacy. As a branch secretary of the Guild in Birmingham he had had his first experience of pharmaceutical politics, leading to increasing activity in wider spheres. On becoming a member of the Society's Council he had had to relinquish some of his specifically Guild work, and would not have been surprised if members had felt that he should be replaced in some of the offices that had been confided to him. He was conscious all the time of the loyalty and support of his hospital colleagues. In all its vicissitudes the Guild had commanded the loyalty of the great majority of hospital pharmacists. Few voluntary professional organisations maintained so high a membership out of the total potential.

At the present time a *malaise* afflicted hospital pharmacy: an uncertainty of function and direction in a rapidly changing environment, giving a sense of insecurity and frustration. The range of possibilities in hospital production had diminished as more modern drugs had been introduced. Yet changes in the educational system had produced pharmacists better fitted than their predecessors for new activities. There was the need to pay greater attention to quality control and to the rôle of the pharmacist as adviser and disseminator of information on the actions and uses of drugs. In those fields modern pharmacists were likely to find the intellectual satisfaction that had so often evaded them. A new and progressive relationship should be established between the larger hospitals and the schools of pharmacy.

He would like to see the posts of chief pharmacist in the larger hospitals occupied by pharmacists holding the rank of senior lecturer, reader or professor in the school of pharmacy. The Guild could build up by stages to that ideal.

Hospitals within the appropriate geographical area of a school of pharmacy should be recognised by the schools as their teaching hospitals. Posts of a new kind should be created which could be described as "internships," with three-year contracts (one, two or three posts created each year, according to size of hospital). The intern would work half-time at the hospital and half-time in the school preparing for a master's degree. At the end of the second year the intern



Mr. C. W. Robinson presents the medal to Mr. Grainger.

would have gained sufficient practical experience to justify his admission to the register, and the Society should be asked to modify (if necessary) its regulations to permit that. In his third year the intern would be resident in his hospital.

At the end of his contract he would be equipped as hospital pharmacist, and would have a higher degree, giving him the possibility of moving to full-time teaching, further research, or industry.

Hospitals large enough to run a laboratory for manufacture of galenicals and sterile products could organise programmes of work that would yield the products required economically and provide demonstration exercises for teaching purposes.

The senior pharmacist of the hospital in charge of production could be appointed demonstrator for the work and spend part of his time in the school. Such a link would provide a further possibility in the field of quality control.

IN PARLIAMENT

BY A MEMBER OF THE PRESS GALLERY, HOUSE OF COMMONS

PARLIAMENT reassembled on April 26 after the Easter recess.

Cleaning Fluids

A question on the labelling of cleaning fluids containing carbon tetrachloride was put by Mr. N. T. L. FISHER. He was informed by Mr. GEORGE THOMAS (Joint Under Secretary of State, Home Office) in a written answer on April 26, that most manufacturers of such fluids attached labels warning the public against inhaling the vapour or using the cleaner in an unventilated space. At the Home Office request the labels also included advice to keep the cleaner out of the reach of children. It had been noted that one manufacturer's products carried no warning labels, and the matter was being taken up with the manufacturer concerned.

Oral contraceptives

MR. E. R. LUBBOCK asked the Minister of Health how many cases of arterial thrombotic or thrombo-embolic episodes in women taking oral contraceptives had been reported to the Committee on Safety of Drugs. Mr. K. ROBINSON (Minister of Health) in a written reply on April 26 stated "The Committee have informed me

that there is no evidence of any relationship between the use of oral contraceptives and the thrombotic episodes that have been reported to them. Consequently they cannot give me any figure to which significance can be attached in regard to the taking of oral contraceptives by the women concerned."

Decimal Currency

MR. ERIC LUBBOCK on April 27 presented a Bill to provide for the introduction of decimal coinage.

Patents (Employees' Inventions) Bill

LORD RHODES (Parliamentary Secretary, Board of Trade) moving the second reading of Patents (Employees' Inventions) Bill in the House of Lords on April 27 said its purpose was to restore the law governing rights in employees' inventions to what it was considered to be before the case *Patchett v. Stirling Engineering Co., Ltd.*, was decided in the House of Lords in 1935. In that case an application was refused because under common law every invention, according to the circumstances in which it was made, belonged wholly either to the employer or the employee in the absence of an express agreement to the contrary. It

was held that the invention belonged wholly to the employer because there was no such agreement. Under the Bill, where an invention was made by an employee in the course of his employment, he and his employer would each be entitled to so much of the benefit as might be just. It would restore the legal position to what Parliament in 1949 intended it to be. LORD CAWLEY said the Bill was right in theory but at a later stage the Government should introduce an amendment to give the judiciary some indication of the factors they had to take into account in coming to their decision. Commenting on clause 2 he agreed it was most desirable that specific terms in contracts should be excluded from the Bill. It would be "most disastrous" if in a research department each research worker was looking round to see what inventions he could make and neglecting routine work which did not involve invention. The Bill was read a second time.

COMPANY NEWS

Previous year's figures in parentheses

PHARMACIA (GREAT BRITAIN), LTD.—Mr. R. S. Price (managing director) has resigned to take up an appointment outside the pharmaceutical industry.

GALA COSMETIC GROUP, LTD.—Final dividend $12\frac{1}{2}$ per cent., making 20 per cent. for 1964 as forecast in prospectus. Group profit, £295,312 before £153,849 tax. Profit, after tax, attributable to parent company, £137,646.

GNOME PHOTOGRAPHIC PRODUCTS, LTD.—The company have purchased for £10,000 cash the equity of Elite Optics, Ltd., High Wycombe, a private company manufacturing precision projection equipment of all types.

UNITED STATES BORAX AND CHEMICAL CORPORATION.—Net income after federal income taxes for the three months ended March 31 was \$2,357,741 (\$2,476,017 in same period 1964). Net sales were worth \$25,154,753 (\$24,287,631).

UNITED GLASS, LTD.—Group trading surplus for 1964 is £2,347,890 (£2,595,829) and profit before taxation, £1,257,716 (£1,613,035). After tax of £389,861 (£623,926), net profit is £867,855 (£989,109). An unchanged Ordinary dividend of 15 per cent. for the year is recommended.

WILLOWS FRANCIS, LTD.—The chairman (Mr. A. J. Cornforth), explaining the fall in profits for the half-year ended December 31, 1964 (see *C. & D.*, April 3, p. 334), states that it stems from an increasing pressure on the margin of profits caused by increasing costs and intense competition. The board anticipate that the results for the second half-year will show a continuation of that trend. Two new products, which are still under development, have shown "great promise" but it will be a matter of years rather than months before either can add substantially to the company's profits. The directors expect to recommend an unchanged dividend for the year.

BUSINESS CHANGES

MR. D. G. EDWARDS, M.P.S., has opened the Clwyd Pharmacy, Abergele, on April 5.

MR. J. A. BOYLE, Ph.C., M.P.S.N.I., F.B.O.A., has transferred his business to new premises at 23 Thomas Street, Armagh (from 60 English Street).

LOFTHOUSE & SALTMER, LTD., are moving to a new £75,000 building in Stoneferry, Hull, on May 13. Opening ceremony is to be performed by Mr. C. W. Maplethorpe (managing director, Allen & Hanburys, Ltd., and a director, Glaxo Group, Ltd., of which Lofthouse & Saltmer are now part).

Appointments

REXALL DRUG CO., Castle Boulevard, Nottingham, have promoted Mr. J. Peacock to the position of Northern area manager. His former position has been taken by Mr. A. D. Taylor.

CYANAMID OF GREAT BRITAIN, LTD., Bush House, London, W.C.2, have appointed Mr. A. W. Brown Northern field sales manager and Mr. R. C. Arey, Southern field sales manager for their Lederle Laboratories organisation.

EUCRYL, LTD., Oakley Road, Southampton, announce the following changes in personnel: Mr. D. Barry, promoted from Northern area sales manager to group field sales manager; Mr. A. V. Brashier, appointed representative in Hampshire, Berkshire and Sussex, Mr. A. C. Beach (formerly in South Wales), now assumes responsibility for Birmingham and West Warwickshire and Mr. J. C. Folkes changes his area responsibility from the East Midlands to Coventry and East Warwickshire.

HOECHST PHARMACEUTICALS, LTD., Portland House, Stag Place, London, S.W.1, have appointed Mr. P. R. Cuthbert, M.P.S., marketing co-ordinator, and also Mr. W. K. Cheng, B.Pharm., M.P.S., to their scientific information department. The following have been appointed medical representatives: Messrs. R. J. Adams, B.Sc. (South-east Wales); G. Bryant (South-west Wales); W. N. Conway (North Kent); P. L. Cooper (Cumberland and Westmorland); G. Curzon-Hope (Birmingham); G. C. Haddow (Lanarkshire); R. A. Lockett (East Sussex); J. P. McCormick (Lanarkshire); B. A. Neale (North London); C. F. Rennie (North Scotland); J. Shelton (South-east London); R. B. Street (Birmingham); and R. M. Wellings (North Wales).

OVERSEAS VISITS

MR. J. S. HILL (director, Ward, Blenkinsop & Co., Ltd.), will be touring in the United States for three weeks from May 5.

PERSONALITIES

MR. WILLIAM LEE, who, until his retirement in 1940, was chief pharmacy superintendent with Boots Pure Drug Co., Ltd., Nottingham, celebrated with Mrs. Lee their diamond wedding on April 27. Mr. Lee joined Messrs. Boots

in 1903 and was appointed district general manager and later general manager of London-area branches. After the 1914-18 war he became retail director. Mr. and Mrs. Lee now live at Briars Hall, Briars Lane, Lathom, Ormskirk, Lancs.

PROFESSOR ARTHUR STOLL, F.R.S., who delivered the Hanbury memorial lecture on March 24 (see p. 454) is the founder and the former director of the pharmaceutical department of Sandoz, Ltd., Basle, Switzerland. Born in 1887 he was still a student at the Federal Institute of Technology, Zurich, when he became assistant to Professor Willstätter, who had just begun his fundamental studies on plant pigments. Stoll helped with the investigations and was awarded a degree in natural science for his work on the enzymatic cleavage of chlorophyll. When his colleague moved to Berlin, and later to Munich, Stoll accompanied him. In 1917 Stoll left Willstätter's department to join the Sandoz organisation. On leaving, he was awarded the title Royal Bavarian Professor in recognition of his scientific achievements. Basis of his work was the isolation of active principles in pure crystalline form from squill, strophanthus, digitalis and ergot. Of particular importance have been his achievements in the isolation of the ergot alkaloids. Professor Stoll retired from management of the pharmaceutical department in 1956 and in January 1964 was appointed chairman of the company.

MARRIAGES

CLARK-HOLMES.—At St. Werburgh's Roman Catholic Church, Chester, on April 21, John Duncan Clarke, M.P.S., 2 Ermine Road, Chester, to Elizabeth Margaret Holmes.

THOMAS-TAYLOR.—At Wollaton, Nottingham, recently, John Barry Thomas, M.P.S., 246 Forest Road, Loughborough, Leics, to Susan Clementina Taylor, Harrow Road, Wollaton Park, Nottingham.

DEATHS

DAVIES.—Suddenly, on April 22, Mr. Lewis Davies, M.P.S., aged fifty-four. Mr. Davies, who qualified in 1932, had been in business at 42 Grange Road, for the past twenty years. He was a committee member of the Birkenhead and Wirral Branch of the Pharmaceutical Society.

EASTWOOD.—On March 30, Mr. Claude Hubert Eastwood, M.P.S., 23 Withey Close West, Westbury-on-Trym, Bristol, Glos. Mr. Eastwood qualified in 1938.

JONES.—At his home, Landfall, Mount Auldryn, Ramsey, Isle of Man, recently, Mr. Norman Jones, M.P.S., aged fifty. Mr. Jones, who qualified in 1937, was formerly for some time a chemist with Shell International in Indonesia and in Colombia, South America. On retiring from the organisation he went to reside in the Isle of Man, and about eighteen months ago took over the pharmacy of Mr. James Corteen. He is survived by his widow.

INSTANT - PRINT PHOTOGRAPHY

New cameras and new low prices

AN expanding market for picture-in-an-instant photography, and a parallel increase in sales for chemists, should result from the introduction of three new low-priced Polaroid Land cameras and substantial reductions in the price of Polaroid Land black-and-white and colour film packs.

The new model 104 colour pack camera, launched in Great Britain by Polaroid (U.K.), Ltd., Queensway House, Queensway, Hatfield, Herts, retails at £29 19s. 6d., less than one-third the cost of some of the previously available Polaroid Land cameras. Fool-proof in design and automatic in action, it should appeal to the widest range of amateur photographers. The apparatus produces black-and-white photographs in 10 seconds or high quality full-colour prints in 60-90 seconds. A new model 103 colour-pack camera retails at £39 19s. 6d., and a 101 colour-pack camera, the most versatile of the three new units, sells at £59 19s. 6d.

Improvements

The new cameras are designed around the same concepts as the original colour-pack camera, the Polaroid automatic 100, which is already in wide use throughout the world for purposes of business, science or pleasure. All the new cameras have a remarkable transistorised electronic-shutter and electric-eye combination, and use the established type 107 black-and-white and type 108 colour films. Simple to use and portable, the cameras each weigh much less than many 35-mm. conventional cameras, yet provide eight 3½ x 4½ in. pictures per pack. Each camera has two film speed settings, one for black-and-white and the other for colour. With the film speed indicator on colour, the lens aperture is fixed at f/8.8. Where the indicator shows black-and-white, the aperture is f/42. The electronic shutter of the model 103 and model 104 cameras is equipped with two capacitors, giving them an automatic shutter speed range without further adjustment from 1/1,000 sec. to 1 sec., while the more versatile model 101 has an electronic shutter equipped with four capacitors, giving it a shutter speed range from 1/1,000 sec. to time exposures (in colour only) up to 10 sec. The three cameras require the use of flash for indoor pictures and take Polaroid flash-gun No. 268, which uses M3 bulbs. The low price of the model 104 has been achieved by brilliantly intelligent designing and the use of a plastic shutter and a simplified range-finder. It also has a duplet lens. The model is, however, a little more restricted in the number of accessories that can be used with the camera. Unlike the more expensive coupled range-finder and view-finder on the other two colour pack cameras, the cheapest model has an "image sizer" and movable frame view-finder that is rigid on top of the camera. The image-sizer on the model 104 camera consists of a frame-correcting finder and, within the finder, a moving arrow, aligned with an illuminated distance scale.

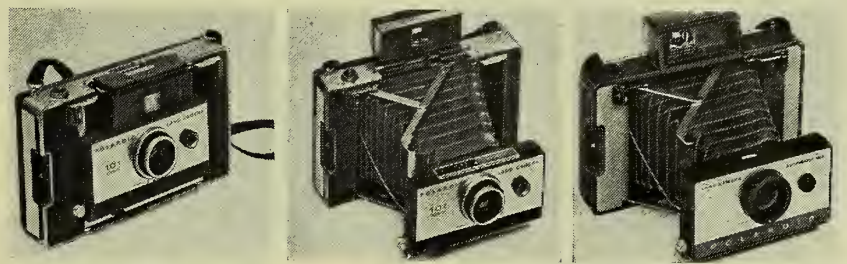
Frame correction is accomplished by a rectangular series of illuminated diamonds, which move up and down for parallax correction and in and out to indicate the field size covered by the camera. The image sizer is keyed to making photographs of people, the most common of subjects. To make a perfectly centred and focused picture of a person, the photographer aligns a stationary horizontal line in the finder at the top of the subject's forehead, and—using the focusing bar—aligns the movable arrow at the person's chin. Before clicking the shutter, he views the rectangle of diamonds in the finder to determine the size of the picture area surrounding the person being photographed. For photographs that do not include people, the model 104 camera user estimates the distance from lens to subject, then sets the arrow to the footage scale in the image sizer.

Model 103 Land camera has more versatility and greater accessory capability. It also has a triplet lens and a double-image, coupled range-finder with a projected frame view-finder

that folds up when the camera is being stored or carried. A cloud filter, and Polaroid's supplementary lens for both colour and black-and-white portraits may also be used with the camera. The model 101 has a triplet lens and the same coupled range-finder with folding, projected-frame viewfinder as is found on the 103 model.

The film packs—107 for black-and-white and 108 for colour—provide eight large pictures in each pack. After exposure the user pulls the two film tabs that extend from the side of the camera, and after the recommended development time the picture assembly is merely stripped apart to reveal the finished positive print. Wide television and Press advertising coverage will bring the advantages of the cameras to the notice of public, helping to make pictures-in-an-instant photography at the new low prices popular in the United Kingdom.

Accessories include carryall case, de luxe fitted case, flash gun (using M3 bulbs), self-timer, cloud filter, ultra-violet filter, cable release, portrait kit (42-19 in.), and close-up kit. For prices see C. & D. Quarterly Price List and entries in the cumulative list of price changes.



Left: Model 101 Polaroid camera showing the rangefinder and viewfinder in carrying position. Centre: The rangefinder and viewfinder in "taking" position and camera opened. Right: The low-priced model 104 with rigid viewfinder.

TRADE NOTES

A Giant Size.—Izal, Ltd., Thorncliffe, Sheffield, have introduced a giant size of their Zal disinfectant.

Addition to List.—André Philippe, Ltd., 71 Gowan Avenue, London, S.W.6, have added to their range of products an aerosol spray lacquer suited to carrying in the handbag.

A New Strength.—Organon Laboratories, Ltd., Crown House, London Road, Morden, Surrey, are introducing on May 1 a new strength (50 mgm. in 1 ml) of their Orgajet disposable syringe containing Durabolin (nandrolone phenylpropionate injection, B.P.), offering a new convenience and simplicity in the use of Durabolin in conditions (such as inoperable breast cancer) in which a 50-mgm. dose is customarily given. Packs are boxes of three and twenty-five. The syringe, vial and ampoule presentations containing 25 mgm. per ml continue to be available.

A New Small Size. — Boehringer Ingelheim, Ltd., Isleworth House, Great West Road, Isleworth, Middlesex, are introducing "as a service to pharmacists who have previously had no demand for the long-acting dosage

form of Preludin," a new small pack of ten Preludin Tablonets, each containing 50 mgm. of Preludin in a long-acting form. The manufacturers recommend that Preludin Tablonets should be dispensed when "Preludin 50 mgm." is prescribed. One Tablonet daily before breakfast ensures, they say, "day-long appetite control."

On Southern Television. — British Chemotheutic Products, Ltd., Kemtheutic House, Grant Street, Bradford, 3, are test-marketing in the Southern Television area a new "instant" analgesic Zephrein.

Bonus Offers

CIBA LABORATORIES, LTD., Horsham, Sussex. Entero-Vioform. Twenty-six invoiced as twenty-four; eighty-one invoiced as seventy-two.

F. C. PATON (SOUTHPORT), LTD., P.O. Box 5, Southport, Lancs. Matador hair dressing for men. Twelve invoiced as eleven.

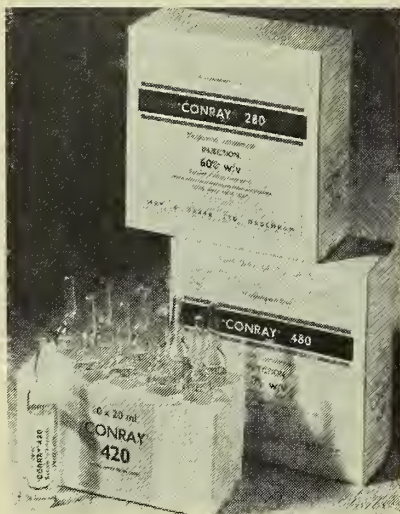
PHOTOPIA, LTD., Newcastle, Staffs. Vernon 18/28 automatic 8-mm. cine camera with remote-control cable. 15 per cent. ADDITIONAL discount on one; 20 per cent. on 3; 25 per cent. on six. While special-purchase stocks last.

NEW PRODUCTS AND PACKS

PHARMACEUTICAL SPECIALITIES

Range Extended.—Boots Pure Drug Co., Ltd., Station Street, Nottingham, announce the addition of Totomycin syrup to their range of Totomycin preparations. The syrup contains tetracycline equivalent to 125 mgm. of the hydrochloride per 5 mls. It is marketed under licence from Pfizer, Ltd.

Iodine Content Indicated.—Pharmaceutical Specialities (May & Baker), Ltd., Dagenham, Essex, announce changes in their Conray range of x-ray contrast media in order to rationalise the nomenclature. Each product in the range is now being named to indicate its elemental iodine content. Thus Conray 60, which contains 280 mgm. of iodine per ml of solution, becomes Conray 280, and angio-Conray 80 becomes known as Conray 480. A new concentration, Conray 420, is recommended for intravenous urography, the high iodine content ensuring films of



excellent quality, and for aortography and angiocardiology, in which the low viscosity of the medium permits rapid injection of a large volume of high iodine-content solution. Conray 420 is available in packs of one and ten 20-ml ampoules, while Conray 280 becomes available for investigations requiring large doses and for use in the technique of infusion urography, as a 50-ml bottle in addition to the present packs. The existing packs of ten ampoules of Conray products are being replaced by a new expanded polystyrene pack, easier to open.

A Likely Channel of Demand.—Astra-Hewlett, Ltd., King George's Avenue, Watford, Herts, though they are actively promoting only to hospitals a new product Kinidin Durules (for the control of certain cardiac arrhythmias) and undertaking no promotion to general practitioners, think it probable that patients discharged from hospital on maintenance therapy may require repeat prescriptions from their general practitioner. That will in turn call for dispensing by pharmacists in general practice. Each Kinidin Durule contains 0.25 gm. of quinidine bisulphate (equivalent to 0.2 gm. of

quinidine sulphate B.P.) in plastic tablet base, permitting controlled release over a period of six hours. Packs are bottles of thirty and 100.

A New Production in the Series.—Carlton Laboratories (Southern), Ltd., 2 Norfolk Square, Brighton, Sussex, announce the addition of Alka-donna gel to their range of specialities for the treatment of gastric disorders and peptic ulcer. The antacid and antispasmodic formulation provides in each teaspoonful (5 mls) 0.3425 gm. of magnesium trisilicate, 2.15 mls of aluminium hydroxide gel and 0.1735 ml of belladonna tincture.

SUNDRIES

Ears Protected Against Water.—British Surgical Houses, Ltd., Southport, Lancs, have introduced a new type of plastic ear plug that is claimed to fit snugly in the ear.

A New Electric Razor.—A new Ronson electric razor—the model 200—of Ronson Products, Ltd., Leatherhead, Surrey, includes a screw-on or stick-on wall bracket to take the razor when not in use. The outer shell, in beige and white, has been “slimmed down” for comfortable hold-



ing in the hand. It has the Ronson cutting system of blades and foil, and its blades are of stainless steel (as also are now those of the model 33 and model 400). The model 200 is supplied complete with “super-trim” and is fully suppressed. It operates on either 100/120 volts or 200/240 volts a.c.

“New-baby” Gift.—Johnson & Johnson (Gt. Britain), Ltd., Slough,

Bucks, announce the introduction (in addition to the present 11s. 6d. gift box) of “Johnson’s new-baby gift,” designed as the ideal present for a mother following the birth of her baby. The gift contains powder, lotion, shampoo, cream, cotton buds, gripe



mixture and toilet and bath-size tablets of baby soap, a fitted “dispenser” tray in which to place the products in either nursery or bathroom, and a copy of the company’s “Loving Care” booklet. Externally the gift is decorated with a colour photograph of a baby as well as with illustrations of the contents and the loaded nursery tray. The contents are packed in pastel-blue coloured expanded polystyrene moulded to the shapes of the products, a method that ensures safety if gift is sent in the postal container provided.

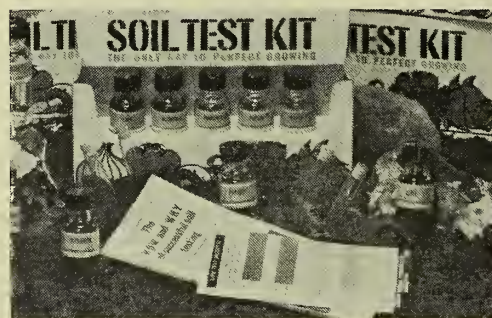
VETERINARY SPECIALITIES

Veterinary Chloramphenicol.—Parke, Davis & Co., Staines Road, Hounslow, Middlesex, announce the introduction of a new veterinary speciality, Chloromycetin Succinate (veterinary), a parenteral form of chloramphenicol B.P., (Parke-Davis) for intravenous, intramuscular or subcutaneous administration. The injection is claimed highly soluble in parenteral fluids and well tolerated at the site of injection. Therapeutic blood levels are quickly attained, making the product the antibiotic preparation of choice in the control of severe infections where speed of response is essential. Pack is a rubber-capped vial providing the equivalent of 1 gm.

HORTICULTURAL PROPRIETARIES

Garden Insecticide Spray.—Baywood Chemicals, Ltd., 37 Bedford Row, London, W.C.1, are marketing an easy-to-use insect spray, Dipterex 80, claimed to leave no lasting residues and to kill caterpillars, leaf miners, earwigs, ants and other garden pests. Packs are a sachet to make 1½ gall. and a carton to make 6 gall. of the diluted spray.

Soil Test Kit.—Issued in four-colour display pack, the Sudbury soil-test outfit of Sudbury Technical Products, Ltd., Sudbury House, Bromley, Kent, contains material for forty tests of the soil for lime, phosphorus, nitrogen and potash. The pack is illustrated at left.



MANUFACTURERS' ACTIVITIES

Beauty Title-holder.—Chosen by a panel that included Miss Elizabeth Welch and Mr. Cardew Robinson from the world of the theatre and Mr. C. A. Williams (secretary of the Toilet Preparations Federation, Ltd.), Miss Carol Crompton, Westcliff-on-Sea, Essex, on April 10 became Miss André Philippe, 1965. Criteria were charm, deportment, hair and figure. Miss Crompton, aged just under twenty, is 5 ft. 6 in. tall, has dark brown hair and "vital statis-



tics" of 37, 24, 36. She wins a luxury week-end in Paris with first class air travel, hotel and entertainment, a going-away suit and cocktail dress, £100 spending money, and other advantages. In organising the contest, André Philippe, Ltd., 71 Gowan Avenue, London, S.W.6, provided all stockists with a showcard and entry forms, and entrants were required to purchase one of the company's products (hair lacquers and sprays, shampoos, conditioners and bubble bath preparations, including the recently introduced "piggy bank" which afterwards serves to hold 240 sixpences).

Many in One.—One large gathering replaced several smaller ones of previous years when the staffs of the Romford, Lee, Wembley and Camberwell depots of Macarthy's, Ltd., of Romford Laboratories, and of H. B. Dorling, Ltd., plus the branch managers from the provincial depots to a grand total of 650, met for their annual dinner and dance recently. It was fortuitous but appropriate that the banquetting room was bedecked with Union Jacks for "British fortnight." The company's managing director (Mr. A. R. Ritchie) presided, and among the guests were three old servants of the company now in retirement (Miss Walker and Messrs. Baker and Copeland). Mr. Ritchie made a speech of welcome, promising that the only "company news" he would give was that its progress would continue. Mr. G. B. Hughes, acknowledging on behalf of the staffs the chairman's welcome, said that the considerable expansion of the company had not been made at the expense of the family spirit which he gave an assurance would be rewarded with continued enthusiasm and unswerving loyalty.

Awards for Youth Leadership.—In a contest organised by Remington Electric Shaver, Ltd., 20 Kensington High Street, London, W.8, to find Britain's two top youth leaders, thirty-seven finalists were at the final judging in London recently. Winners were Mr. John Morris,

a Glasgow student, and Miss Ann P. Smith, a Bradford dental nurse. Each received a silver trophy and replica and £25 cheque towards their club funds.

Research Laboratories Share Computer.—Unilever Research is installing a centralised computing system so that scientists in its laboratories in Bed-

fordshire, Cheshire, Hertfordshire and Middlesex can use the same computer simultaneously. When the system becomes operational early in 1966, it will be the first long-distance time-shared computing system used for industrial research in this country, the company states.

MULTIMILLIONAIRE OF MAGNESIA

A pack now "Titanised" for progress to new records

ON April 1 the 700-millionth blue bottle for Milk of Magnesia to be manufactured at the Ravenhead glass works, St. Helens, Lancs, since United Glass, Ltd., took over their production emerged from its "lehr." Not all the predecessors of that bottle had been quite like it for, since fairly recently, a new process of Titanisation has been applied to the blue bottles during their manufacture, making them at once stronger and lighter than before.

Milk of Magnesia has now been on sale for ninety-two years. Its originator, Charles H. Phillips, was an English chemist who emigrated to the United States, and who devised a method of presenting magnesium hydroxide of exceptional purity as a stable suspension in water. He chose for the product a blue bottle, both for distinctiveness and because the colour had medicinal connotations (from the shop rounds that were to be found among those on pharmacists' shelves of the period). The modern blue bottles manufactured to contain Milk of Magnesia are three to four times as resistant to attack by alkaline solution as normal colourless bottles, the blue glass containing 3-4 per cent. of aluminium oxide against 1-2 per cent. in bottles of ordinary glass.

At the Ravenhead works from five to six months of the production year are given over to blue bottle making. Into the basic glass-making "mix" (sand, limestone and soda ash), plus broken glass ("cullet") go the correct

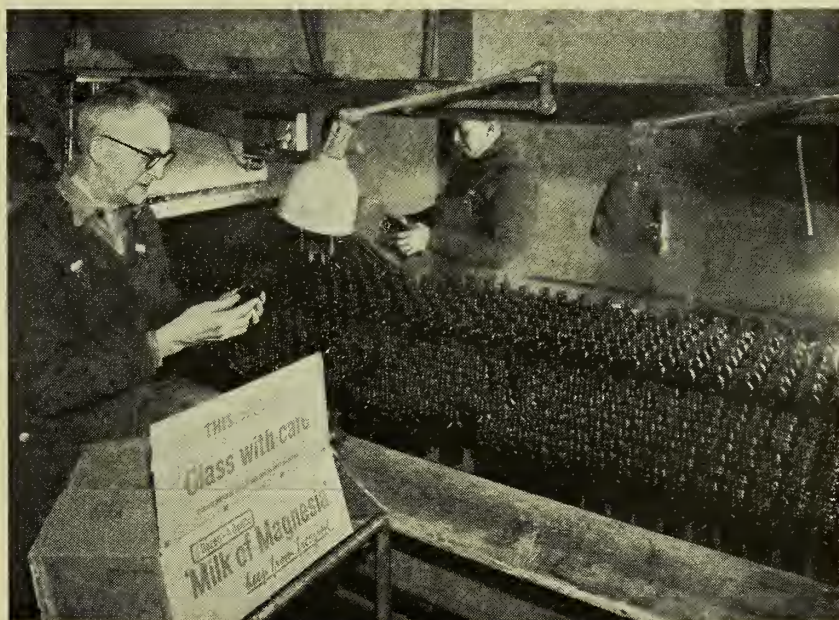


Checking the standard of annealing and the quality of the glass.

(weighed) amounts of cobalt oxide and nepheline syenite. In the furnace the materials are transformed into molten glass, which passes to machines that form the glass into bottles, which are in turn taken by conveyor belt through a long cooling tunnel (the "lehr").

When they emerge every bottle is individually inspected, and any bottle found imperfect is destroyed. A high standard of perfection is maintained with the help of a quality control laboratory, in which numerous tests for strength, durability and uniformity are applied to batch samples.

The contents—Milk of Magnesia—are, of course, produced and filled into the bottles at the Fawdon, Newcastle-on-Tyne, factory of the Phillips, Scott & Turner Co.



Inspecting and packing the finished bottles.

[Photo: Courtesy Sunderland Echo]

BRANCH EVENTS

CHESTERFIELD

Instruction for Assistants

A RECORD attendance of twenty members of the Chesterfield Branch of the Pharmaceutical Society and seventy-six assistants heard a speaker from William R. Warner & Co., Ltd., give an informative talk, illustrated by colour slides and a sound film, on the "History of Pharmacy, Salesmanship and Display," at a Branch meeting earlier this year. It is reported that all present felt that the company, through this lecture, were giving a service to pharmacy and particularly to assistants by showing how pharmacy differs from other sales outlets.

SHEFFIELD

Kiss of Life

USING a realistic life-size model Dr. J. H. RIDGWICK (a local medical practitioner) recently demonstrated the "kiss of life" to a meeting of the Sheffield Branch of the Pharmaceutical Society. That method of resuscitation had been used in very early times, said the lecturer, who quoted Kings II, Chapter 4, verses 32-35, but until recent years it had fallen in disrepute. He explained that the method was of use for cases of drowning, carbon monoxide poisoning and for electric shock. After carefully explaining the details, using the dummy he gave a demonstration and then invited the audience to try their skill. They found that there was quite an art involved, and left feeling that they had learned something useful.

LEICESTER STUDENTS

A Visitor from Ghana

AN unexpected guest at the "old lags" annual reunion dinner and dance of Leicester School of Pharmacy on March 19 was Professor R. S. H. Finney (professor of pharmacy, University of Kumasi, Ghana), who was in England on a two-week visit to buy apparatus for his department. Professor Finney, who was at one time senior lecturer in pharmacology at Leicester, had arrived in the city on the day of the reunion by chance. The customary ordeal of proposing "Our Guests," imposed on the latest member of the College staff, was this year the duty of MR. C. PARRY, who had to stand on his chair to speak. The reply was suitably given by Mr. D. F. LEWIS (an assistant secretary of the Pharmaceutical Society). MR. B. A. EMANUEL (chairman of the College Pharmacy Students' Association) proposed "The Old Lags," MR. A. W. DYER (chairman of the Leicester and Leicestershire Branch of the Pharmaceutical Society) replying. Later in the evening, MR. C. GUNN (head of the School), presiding over his thirtieth "old lags" reunion, was called to the telephone to be told that he had just become a grandfather for the third time.

PLYMOUTH

Drug Toxicity

THE impossibility of devising a set of tests that would allow anyone to say unequivocally "this drug is safe" was

the theme of MR. M. FLANAGAN (a regional manager, Geigy Pharmaceutical Co., Ltd.) in an address to the Plymouth Branch of the Pharmaceutical Society recently. The pharmaceutical industry, he said, was preoccupied with the problems of reducing unavoidable risks. That was why it undertook one-third of all medical research carried out in Britain, employed a higher proportion of scientific staff on research than any other industry, and why over half the total funds of private medical research foundations were donated by the industry. It was not possible, said the speaker in describing the various stages of research, to divorce the two elements of effectiveness and safety, even in the earliest stages of research into a new compound. Investigators who carried out the first clinical trials needed to be convinced that they had a drug worthy of their evaluation.

BRADFORD

Active in Benevolence

MISS M. A. BURR (a member of Council) praised the facilities offered at the

Bradford Institute of Technology in her response to the toast "The Pharmaceutical Society" proposed by the lord mayor of Bradford (ALDERMAN W. M. HIRD) who, with the lady mayoress (Mrs. Hird) was among 20 members and guests at the annual dinner and dance of Bradford Branch recently. Miss Burr said "There is no place anywhere in the country to compare facilities for pharmacy studies with the Bradford Institute of Technology. Its doors are wide open to research." She also thanked the Branch chairman (Professor J. M. Rowson, head, pharmacy department of the Institute) for the Branch's support of the Council, and drew attention to the Bradford branch activity on behalf of the Society's Benevolent Fund. PROFESSOR ROWSON, in proposing "The Ladies and Guests," said that Miss Burr had the distinction of being only the second woman president of the Society in its 124 years of existence, and that she had filled the office with grace, charm and authority. The vice-principal of the Institute (MR. R. A. MCKINLAY) responded to the toast.

Correspondence

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

Survey on Assistants

SIR, — The Salaried Pharmacists' Union is at present engaged in conducting a survey on pharmacists' reactions to the Society's Educational Committee's proposals regarding the training and examination of "assistants in pharmacy" and invites any pharmacist who has not yet received its questionnaire to send in to the Union's office at 51 Ashburnham Grove, London, S.E.10, his replies to the following questions:

- (1) Status (i.e., employer, self-employed, or employee).
- (2) Do you favour "certified assistants in pharmacy"? Yes or No.
- (3) If in favour, what provisions would you suggest to safeguard the status of the present qualifications?

DOUGLAS GIBSON, *Secretary*,
London, S.E.10

Contents on Label

SIR,—I see that Mr. Sam Howard (president of the Association of British Pharmaceutical Industry) in his annual report (*C. & D.*, April 24, p. 408), supports the idea that all medicines supplied on prescription should be labelled with the name of the preparation. In my opinion neither he nor the Association has any right to tell the pharmacist how to do his job. No doubt he (Mr. Howard) is able to make out something of a case for such labelling, but retail pharmacists can make out a much better and stronger case for not doing so. After all, the contract to supply (on N.H.S. prescriptions at least) is between the retail pharmacists and the Ministry of Health—on the written orders of the doctors.

A. M. CARR,
West Smethwick, Staffs

Undermining Public Confidence?

SIR,—Anyone who has followed the activities of the Pharmaceutical Society over the past year or so cannot have failed to conclude that it is deliberately following a public-relations policy which is calculated to undermine the public confidence in the safety of medicines. I presume that the hope is eventually to help retail pharmacists by creating an atmosphere in which it would be easier to introduce legislation to restrict the sale of medicines to pharmacies. All of us would welcome a larger proportion of medicines being distributed to the public through the hands of the profession. However, surely the right way to achieve this is by improving our own service and, if legislation is necessary, by making representations in the appropriate quarters, rather than by giving publicity to pronouncements and speeches of the sort we have seen recently. This publicity for the hazards of medicines may have a disastrous effect on the future of pharmacy, and on the well-being of the public. It is likely to create an impression that "medicines" bought from a chemist are all thoroughly dangerous, whilst the "household remedies" (many of which must always continue to be available from the supermarkets) are fine and safe. We would all like to see the abuse of medicines stopped; but is the Society really justified in spending our money in putting so much public emphasis on the dangers of the products we sell, and perhaps in thus driving more of our potential customers into the supermarkets?

A. BLAND,
Halifax, Yorks

The CHEMIST AND DRUGGIST

For Retailer, Wholesaler and Manufacturer
ESTABLISHED 1859

Published weekly at
28 Essex Street, Strand, London, W.C.2

TELEPHONE: CENTRAL 6565

Rush Job

THE Council of the Pharmaceutical Society seems to be developing bad habits of dashing off at the eleventh-hour statements it has previously announced its intention of issuing for the guidance of members. One result is that the statements when they come are phrased in convoluted verbiage that it takes the reader time and effort to disentangle, and which would have been much improved by such pruning and trimming as could so easily have been carried out if the necessary margin of time had been allowed.

Last week, when two statements were issued, it was even the case that what was the eleventh hour for the Society's journal was, taking into account further delay in transmission to Essex Street, well past our deadline for publication. That is something we regret, but it does provide us with the opportunity, at no cost to the Council and with great advantage, we believe, to clarity, of performing just that service which we have suggested was desirable and necessary. We are concerned at the moment with the first of the two statements. It points out that the importance to pharmacy of preserving its identity from being submerged by extraneous activities was brought out in wording added to the Statement upon Matters of Professional Conduct in 1953. The added words were:

THE appearance of the premises should reflect the professional character of pharmacy. It should be clear to the public that the practice of pharmacy is the main purpose of the establishment.

The report of the Committee on the General Practice of Pharmacy published in 1961 sought to define the nature of general pharmaceutical practice and analysed the activities carried on in pharmacies. It drew attention (paragraphs 18, 19, 20) to the adverse effects on pharmacy of closely associating it with varied non-professional activities.

The report when published was criticised as encouraging the growth of business along departmental lines. The Council made clear that that was not the Committee's intention, but added that no objection could be taken to the practice of pharmacy in departmental stores if the report's standards were observed. The Council felt, too, that in existing circumstances the situation was sufficiently controlled by the wording of the Statement as quoted above. The relevant sections of the report were accepted by a special Branch Representatives' meeting in 1963, but it was soon evident, says the statement, that further action was called for. Later in the same year the Council declared the practice of phar-

macy in supermarkets to be professionally unacceptable. Experience gained since then has led it to conclude that such undesirable developments can only be prevented by circumscribing the conditions in which pharmacy may be practised.

The Council now consider that *new* pharmacies should be in structurally separate premises and not in departments as normally understood, and that in existing establishments the range of non-professional activities should not be extended. Those views are embodied in a motion that is being put to the annual meeting on May 19, namely:—

NEW pharmacies should be situated only in premises which are physically distinct, and should be devoted solely to

- (i) professional services, as defined in paragraph 19 of the report of the Committee on the General Practice of Pharmacy;
- (ii) within the limits recommended in the report, non-professional services as defined in paragraph 19 of the report, and
- (iii) such other services as may be approved by the Council; and the range of services in existing pharmacies, or in pharmacy departments of larger establishments, should not be extended beyond the present limits except as approved by the Council.

It is evident that the Council has been stimulated into action by activities in supermarkets, upon one of which we have already commented (*C. & D.*, November 21, 1964, p. 523). It must, however, be noted that the suggested action appears to be limited to a somewhat narrow field in that only *new* pharmacies are to be required to adopt physically distinct premises. The limitations the statement makes upon range of services to be offered covers existing pharmacies and is therefore much wider.

The timing of the announcement of the proposals is also open to objection. The annual meeting takes place on May 19. The first announcement concerning the proposals was issued on April 17, and the explanation, which surely should have been available when the first announcement was issued, came later (in the Society's journal on April 24). Thus little more than three weeks remain between explanation and meeting. The commentary in the Society's journal describes the motion, "if carried," as representing a "watershed in pharmaceutical affairs." It will be indeed but, that being so, why should the membership be given such limited notice of so important an item in pharmaceutical politics? Another aspect of the timing of the announcement gives additional cause for concern. At the moment seven vacancies on the Council are in process of being filled, and none of the five candidates who are present members of Council seeking re-election were able, in their statements of policies, to give their individual reactions on the new proposals. Even more important, perhaps, was that none of the "challengers" could do so.

That is, of course, a matter that may be considered the concern of members of the Society, but it must not be overlooked that the "code of ethics" of the Society can be—and in a matter like pharmacies in supermarkets is—a vital public interest also. It is essential for the Society in its professional activities to ensure that its actions are palpably in the public interest.

It would have seemed appropriate to bring forward at the same time proposals for more stringent standards within all (including existing) pharmacies, making it

abundantly clear that the motivation was the interest of the public as a whole, and not merely in that of pharmacists in general or independent proprietors in particular.

Having made clear our criticisms of the wording of the statement and of the hasty, too little considered manner in which it was put out, we owe it to readers to make clear also that we are on the Council's side in believing that pharmacies in supermarkets are a development not in the long-term interest of the public—at least on the model of the unenclosed floor area that does duty for a pharmacy at West Bridgford. We agree, too, that members' standards of professional ethics are in a state of constant advance, and have gone beyond the original Statement of Professional Conduct in a number of respects. We recognise that the problem is a difficult one, prejudiced as the situation is by the fact that pharmacy departments have existed in departmental stores, undifferentiated by walls and lockable doors from other departments, for many years.

On the basis, however, that the suggested approach may be a useful stepping stone towards a further advance in the future, when it should be made possible for Branch Representatives to debate the decisions after adequate notice, we give qualified approval to the motion to be put to the annual meeting on May 19.

Assistants on What Basis?

SECOND of the two resolutions released by the Council on April 20 dealt with assistants in pharmacy and the basis of their training. On this subject the centre of gravity of majority thought has, we think, shifted considerably since that most vocal, most numerous attended annual meeting of 1953 that rejected outright a Council scheme for the training and examination of assistants.

In 1952, as the Council statement recalls, the Council had submitted to the Branch Representatives' meeting a report on assistants' training and examination. In the scheme submitted to the annual meeting a year later it was suggested that the examining body should consist of representatives of the Society, Guild of Public Pharmacists, National Pharmaceutical Union, Company Chemists' Association and Co-operative Union. When the report was rejected the Council undertook not to proceed with any scheme relating to assistants until it had been approved by a general meeting of the Society. The subject of assistants was again discussed in the report of the Committee on General Practice in 1961, the point of view there expressed being that the arguments in favour of training and examining assistants had gained greater force in the meantime. Discussions have subsequently taken place with the Society of Apothecaries to see whether a joint arrangement was practicable, based on the principle that the authority to deal with the training and examination of assistants should be a pharmaceutical one. The discussions were unsuccessful. Meanwhile other pharmaceutical organisations (the National Pharmaceutical Union, Company Chemists' Association and Co-operative Union) had been discussing plans for systematising the training and examination of assistants in retail pharmacy, and the Society was invited to associate itself with that development. The Council's 1953 undertaking does not bind it to take no part in shaping such plans but, as a matter of

propriety, the Council is inviting members to approve its participation in the discussions. A motion is being put:—

THAT this meeting approves of the Society taking part in negotiations for establishing a scheme for the training and examination of assistants in pharmacy.

Various factors have operated to influence the shift of thought. There is no longer the urgent fear of "dilution" of the register by persons who, after a much inferior training, might clamour for parity of recognition. The "three A levels" requirement for entry into pharmacy is alone a sufficient safeguard against that. The hospital pharmacists, too, whose reduced ranks made them even more vulnerable to dilution, have accepted assistants and survived with status unimpaired (if with salary standards unrealised). And note has been taken by more and more pharmacists, we believe, that other professions operate on the basis of employing technical assistance from people of inferior qualifications without apparent damage to their own status, prestige or emoluments.

Any scheme which the Council supports will be submitted to a future general meeting of the Society, and we consider that all members, even those whose views on the subject may not have changed since 1953, can afford to give the Council the degree of approval for which it asks, withholding criticism for any detailed plan that emerges.

NEW BOOKS

Gas Chromatography Abstracts 1963

C. E. H. KNAPMAN (editor). *The Institute of Petroleum*, 61 New Cavendish Street, London, W.1. 9½ × 6½ in. Pp. x + 286. 42s.

THIS volume in the series of annual *Gas Chromatography Abstracts* is the first to be published by the Institute of Petroleum. A team of forty abstractors regularly scan 185 journals and the result of their efforts is once more an increase in size of the volume, reflecting the increasing interest in and usefulness of this method of analysis.

Methods in Polyphenol Chemistry

J. B. PRIDHAM (editor). *Pergamon Press, Ltd.*, Headington Hill Hall, Oxford. 9 × 5½ in. Pp. 146. 50s.

BETWEEN the stiff covers of this book are recorded the proceedings of a Plant Phenolics Group symposium held in Oxford in April 1963. The symposium was concerned principally with methods and techniques that have made possible recent advances in the subject. Among the methods reviewed paper, ultra-violet, nuclear resonance and other techniques of spectroscopy figure prominently.

Indolalkaloide in Tabellen

M. HESSE. *Springer-Verlag*, Berlin, Western Germany. 11½ in. × 8½ in. Pp. 212. DM24.

IN this German work (in its language of origin) the structural formula, botanical source and melting point are tabulated for 304 indole alkaloids, with references to the literature. References (and values) are also given, where appropriate, for pK_a ; optical rotation; infra-red, nuclear magnetic resonance, mass and ultra-violet spectra and total or partial syntheses. These alkaloids are divided into twenty classes and the same details are given for a further 207 alkaloids of unknown structure that could be considered as indole alkaloids and have been so described in the literature. Indexes of molecular formulas, botanical sources and a subject index are included.

ECHOES OF THE PAST

A LITTLE PRUSSIC ACID FIRST

From *Maison Rustique*, by Charles Estienne, 1570.

SUCH as are disposed to drink much wine and not be drunke with it must eat some raw coleworts before hand: or eate five or six bitter almonds.

Pharmaceutical Society of Ireland

MONTHLY MEETING OF COUNCIL

THE Department of Health is prepared to meet representatives of the Council of the Pharmaceutical Society of Ireland to discuss the control of drugs and medicines. A letter to that effect in response to a request by the Council was read at the Council's meeting in Dublin on April 13. Other topics that are being brought up at the encounter include reported deficiencies in the quality of certain drugs on the Irish market and the establishment of a drug-testing bureau. A second letter welcomed the Council's offer to assist in all health-promotion campaigns by having the relevant literature displayed in pharmacies. MR. R. J. POWER, in welcoming the Department's replies, recalled that, in the recent poliomyelitis immunisation drive, literature had been displayed in traders' windows but pharmacies had not received any official posters.

The Society and Drug Control

MR. M. L. CASHMAN welcomed especially the Department's willingness to receive the views of the Council on the need for quality control of drugs. Subject to certain support, he said, the Society would be prepared to run a laboratory for the quantitative analysis of medical preparations.

MESSRS. F. LOUGHMAN and M. COSTELLO also spoke in favour of effective control over drug standards. It was agreed to draw up a list of headings for discussion and to arrange a date for the meeting.

It was reported that the suggestion, made by MR. M. F. WALSH at the March meeting, to send a memorandum to the Minister for Health pointing out the deplorable professional position of general pharmacists, had prompted four Dublin pharmacists (Messrs. P. J. O'Brien, T. J. Gleeson, R. C. O'Higgins and J. P. Burke) to write in support of the proposal and state that little foresight was needed to realise that, without a marked improvement in that state of affairs the numbers who were attracted to a pharmaceutical career would be small. The writers of the letter had said they considered it amoral to encourage young people to prepare to enter a profession that could be so unrewarding as a means of livelihood. The president (MR. J. P. O'DONNELL) said that two meetings had been held in connection with Mr. Walsh's suggestion, and it had been felt that no time should be lost in placing all the relevant data in the hands of the new Minister for Health. "This is the most important item to come before the Council since I became president, and we should make a final, detailed analysis of exactly how pharmacists stand. With the advent of the new Minister we should press on regardless," said Mr. O'Donnell. Commenting that the four members' views had re-echoed recommendations that he had often made, the registrar (MR. J. G. COLEMAN) congratulated them on writing to the Council. On taking office as secretary he had told the officers and out-going president that the matter was one of the first that should receive attention. The matter had been allowed to stand over in order to proceed with Mr. Corrigan's motion asking that the opinion of senior counsel be sought whether the constitutional rights of pharmacists were being undermined by the Health Acts.

Earlier, Mr. Coleman had reminded the meeting that at present the Society was currently negotiating with the Irish Drug Association on the Health Service, on possible overlapping of functions of the Council and the Association, and on Mr. Walsh's suggestion.

MR. T. R. MILLER declared that the sooner the question of overlapping between Council and I.D.A. was cleared up the better, and THE PRESIDENT assured him that a meeting of the two bodies was being held before the next Council meeting. It was stated that the preparation of the memorandum was being proceeded with. The memorandum would be submitted to the Minister for Health without delay.

The REGISTRAR told MR. CASHMAN, who asked if any replies had been received from other countries regarding the operation of self-selection pharmacies, that valuable information had been received from the assistant secretary of the Pharmaceutical Society of Great Britain, for which the Council was grateful, and that further information was being supplied by the International Pharmaceutical Federation. All relevant correspondence was being forwarded to the Practice of Pharmacy Committee, which would make known its recommendations in due course.

On the motion of MR. CASHMAN a vote of sympathy with the relatives of the late Mr. Fred Storey was passed. MR. M. J. MULREANY was nominated for the *Seanad* general election (cultural and educational panel) on the motion of MR. WALSH, seconded by MISS L. CUNNIFFE. On the motion of MR. CASHMAN, seconded by THE PRESIDENT, the Council extended congratulations to former president Mr. P. A. Brady on his re-election to the *Dail*.

The suggestion in a publication [not the *C. & D.*] commenting that the Council was wasting time interesting itself in the question of restrictions on the sale of merchandise was described by THE REGISTRAR as "completely without foundation." He added that the Council was not concerning itself with the sale of merchandise, as suggested, but in ensuring proper safeguards in the sale of poisons. It was agreed to write to the editor of the journal concerned pointing that out. MR. R. J. SEMPLE said that an idea had apparently gone abroad that the Council was endeavouring to restrict pharmacists to out-moded standards of layout. He had explained to members that Mr. Kennelly's recent recommendations were far from restricting members in that way.

MR. F. LOUGHMAN said that, as one of the oldest members, he felt pharmacy was losing its identity and they ought to preserve, above everything else, the character of a pharmacy. At a time when they were seeking special recognition from the Government and other sections of the community it was strange that some pharmacists were prepared to lose their identity. THE PRESIDENT pointed out that the matter was being referred back to the Practice of Pharmacy Committee. On the motion of THE PRESIDENT, the Council congratulated MR. F. LOUGHMAN, who this month celebrates the golden jubilee of his admission as a qualified assistant.

A letter from the Department of Agriculture notified the reappointment of Mr. O'Donnell as a member of the Animal Remedial Consultative Committee.

PROFESSOR R. F. TIMONEY reported that he had been in touch with Mr. C. McArdle, Birmingham, who had evolved a system of rapid identification of tablets. The system was capable of reducing as many as 5,000 tablets to a possible three or four, which could then be rapidly identified by chemical analysis. Mr. McArdle had intimated that he would be prepared to demonstrate the system in Dublin. THE PRESIDENT considered that the Society should have such a system of investigation at its disposal. It was agreed, on the motion of MR. R. J. POWER, seconded by MR. MILLER, to ask Mr. McArdle to give a demonstration in the College of Pharmacy and to invite members of sister professions and the Press to attend.

Lectures on Professional Ethics

Arising out of a request by MR. WALSH at the March meeting, THE REGISTRAR read a report by a member of the College staff on lectures in professional ethics delivered in the College. The Council agreed that the course was excellent, but considered it should be augmented by talks on practical difficulties experienced in day-to-day work in a pharmacy. It was suggested that the registrar should deliver a

lecture to the students and that a practising pharmacist should be invited to explain the practical difficulties normally encountered in retail pharmacy.

THE REGISTRAR reported that he had forwarded to the Department of Health a copy of the report of the committee set up, with Professor Timoney as chairman, outlining the Council's views on the advisability of introducing a European Pharmacopoeia. The report pointed out that one of the more serious difficulties confronting the introduction of such a work was the different trends in pharmaceutical formulation in various countries. Homeopathic medicine was

practised to a considerable extent on the continent, and suppositories and pessaries were used more there for medical treatment than in Great Britain or Ireland. The report suggested that the difficulties might be overcome by limiting the European Pharmacopoeia to monographs and standards relating to drugs only, and that member countries could continue to publish a national formulary dealing with formulations that would satisfy the particular demands of that country, the drugs employed being required to conform to the European Pharmacopoeia standards.

(To be concluded)

HOSPITAL PHARMACY FORUM TRUE ROLE OF THE PHARMACIST

BY A HOSPITAL PHARMACIST

IN the last article in this series it was suggested that the future rôle of the hospital pharmacist might be that of an expert on drugs and their properties. His academic training has provided a firm foundation on which to build and, perhaps even more important still, has inculcated a love of learning for its own sake. Without that the extensive reading essential in order to keep up to date in such a rapidly developing field must inevitably become a tiresome burden. It must be borne in mind, however, that the acquisition of that knowledge can serve no purpose unless there is a demand for it. A doctor cannot be compelled to consult a pharmacist before writing a prescription any more than a pharmacist about to make a will can be compelled to go to a lawyer. In both cases the consultation will take place only if it is thought that the person consulted has some expert knowledge not possessed by the one who initiates it.

A Competitive Field

Doctors are already well provided with information about drugs. At the annual representative meeting of the British Medical Association in 1964, Dr. J. E. Struthers (Ministry of Health) said that the pharmaceutical industry spent about £3 per doctor per week on bringing its products to the attention of prescribers. If that figure is correct—and it does not appear to have been denied—the medical staff of the group in which the writer is employed already have an information service costing over £40,000 per annum. Any doctor who may feel that it does not meet his requirements may take out a subscription to *M.I.M.S.*, to *Medindex* or to a filing card service. If the pharmacist is to gain a place in this highly competitive field he will need to do more than maintain a comprehensive reference library for the use of the medical staff. Such a library is, of course, essential, but in order to substantiate his claim to be an authority on drugs he must be in a position to discuss them intelligently without making continual reference to his files. The subject is his, and ideally he should always be at least one step ahead of the doctor, to whom therapeutics can be only a minor issue.

Informed Opinion

In order to obtain recognition as an expert, the pharmacist must obviously know his subject thoroughly. It is particularly important that he should be familiar with published work on newly introduced drugs, so that he can offer an informed opinion on how they compare with others in the same class. This is probably the crux of the matter. The ability to provide simple factual information such as dose, dosage forms, packing and price is no evidence of *expertise*, except perhaps in librarianship. Experts are valued for their opinions and not for their knowledge of facts. Few of the existing sources of information available to the doctor can be relied upon for an informed and unbiased opinion, and the pharmacist is therefore provided with an obvious opportunity to step in and fill the gap.

The Prescribing Pharmacist

On the other hand it is of the utmost importance that the pharmacist who sets up as an expert on drugs and their properties should clearly recognise his limitations. Some time ago it was fashionable, even in high places, to look forward to the day when the doctor would diagnose and the pharmacist prescribe. That can never be anything more than a pipe dream. A drug cannot safely be administered to a patient unless the prescriber has a detailed knowledge of the case history. He will need to know, at the least, what drugs the patient is already taking and whether there is any history of allergy or undue sensitivity to a particular drug or group of drugs. In short, he must look at the patient as a human being and not as a set of symptoms. It could, of course, be argued that the pharmacist would not prescribe until he had read the detailed case notes, but who would be blamed if some vital piece of information had been omitted, leading to the prescribing of treatment resulting in an injury to the patient? The anaesthetist takes care not to place too much reliance on case notes, preferring to make his own examination before accepting responsibility for the administration of an anaesthetic. Would patients stand for an independent examination by the pharmacist and is there any possibility, if they did, that the medical profession would accept the division of responsibility? The author of a recent article in the *Journal of Hospital Pharmacy* attempts to overcome the difficulty by suggesting that the pharmacist should be present when the patient is seen by the doctor. He would then advise on the drugs to be prescribed but would take no responsibility for the immediate treatment of the patient. That would appear to mean that, while claiming to be an expert on drugs, he was disclaiming responsibility for anything that might result from accepting and acting upon his advice. If so, he is assuming the rôle of a medical auxiliary and not acting as a professional scientist.

Establishing a Reputation

The pharmacist has his own field of *expertise*, and he would do well to remember that it does not extend to the treatment of patients. Like the radiologist and the clinical pathologist, his place is in his own department. Once he has established a reputation for having something useful to say, the medical staff will quickly tread a path to his door. He will, of course, have to contend with competition from other would-be advisers in the shape of medical representatives. Some of those are pharmacists, and more often than not their advice will differ from that which he himself may have given. That is unfortunate, but it is part of the price that has to be paid for the commercialisation of therapeutics. The hospital pharmacist has no alternative but to meet the competition, and his success or failure will depend largely upon his own efforts. He must convince the medical staff that he is not just a walking therapeutic index, but an expert in a unique field of endeavour. In the next article an attempt will be made to define that field more precisely, and to offer some suggestions for its exploitation.

Pharmaceutical Manufacturers' Annual Dinner

PRESIDENT CAMPAIGNS FOR PATENT-LAW REFORM

THE annual dinner of the Association of the British Pharmaceutical Industry, held in London on April 22 was as always strongly supported by members. The Association's guests included representatives of the medical and pharmaceutical professions, of industry, Parliament and Government Departments. Proposing the health of the guests Mr. SAM HOWARD (president of the Association) said that everybody was now aware that the Committee of Enquiry would be examining many, possibly all, aspects of the industry. Comment from him on any topic within the terms of reference of the Committee might be taken as an out-of-place effort to influence the Committee's work. He was not therefore mentioning any of those items except the Patents Act, and in particular Section 41.

Not Speechless

Two reasons led him to make the exception. At the present time seven applications for compulsory licences were before the Comptroller for decision. The patents attacked were the industrial property of members of the Association. The member firms, represented there that night, had at that moment £ millions' worth of patent property in hazard and he could not end by speechless while that was hanging on.

Sir Derrick Dunlop had said "All the valuable new drugs of the last thirty years—penicillin and streptomycin—were exceptions—had been discovered in the manufacturers' laboratories," and "We must be careful not to kill the goose which had laid so many golden therapeutic eggs by excessive bureaucratic restrictions." One would think that nothing remained to be said—that a pharmaceutical industry would be a cherished asset of any nation lucky enough to possess one; that people working in the industry would be respected, and that the people inventing and discovering those modern drugs would be protected, nurtured, and encouraged—doubly so in a country whose only natural raw material was brains. The amazing fact was that in Britain the pharmaceutical inventor was given less generous treatment than the inventors of pleasant but trivial fripperies.

The Patents Act, 1949, in its Section 41 provided that the comptroller, without help of judge or jury, should dispose of licences to patents worth £ millions and should do so without guidance in deciding what were good reasons for refusing an application. The company applying for the licence had made no contribution to the original search, and had done no original work on the new drug. The applicant was just using other people's work to make a profit for himself. Moreover the licence had no force outside Britain, so no contribution was being made to exports, nor was the licensee under compulsion to cater for any particular fraction or section of the

market or to make the new medicine for any guaranteed length of time. He could make the drug and supply it to, say, the Greater London area only and not bother about troublesome or costly distribution elsewhere. He could make it for a period, then throw the burden of supply back to the patentee if some more profitable use arose for his manufacturing plant.

Thus the "any person interested" was engaged in a primitive form of industrial activity made possible by a primitive piece of legislation. Even that was not all. Some licensees did not even want to manufacture the drug, merely wanting to merchant foreign material in Britain.

No application had yet been refused, so it seemed that the comptroller had not yet seen as good reasons for refusing the application any of the situations mentioned. A definition was needed of what, in the industrial field, was in the public interest, what was against it. Such a definition appeared in Section 14 of the Monopolies and Restrictive Practices Act, 1948, which said that:—

IN determining whether any conditions to which this Act applies or any things which are done . . . regard shall be had to the need, consistently with the general economic position of the United Kingdom, to achieve the production, treatment and distribution by the most efficient and economical means of goods of such types and qualities, in such volume and at such prices as will best meet the requirements of home and overseas markets; the organisation of industry and trade in such a way that their efficiency was progressively increased and new enterprise encouraged; the fullest use and best distribution of men, materials and industrial capacity in the United Kingdom; the development of technical improvements, and the expansion of existing markets and the opening up of new markets.

Against Public Interest

Mr. Howard declared that every grant of a licence under Section 41, and every licence that might be made in the future, was against the public interest as there defined. Any suggestion that Section 41 of the Patents Act was necessary to ensure that a patentee of a valuable medicine did not charge too high a price for it was untrue. A licence could be obtained under Section 37 if too high a price was being obtained for a new drug. To any who thought that Section 41 gave some protection against the dominance of foreign-owned firms in the British drug industry he would say that the export market for drugs was at least twenty times larger than the United Kingdom market, and growing at a faster rate. To get their full share of that large export market British firms must have the whole benefit of their patents in the U.K. and not be weakened by compulsory licences under Section 41. They must have the full benefit of their patents in overseas markets also, and not be open to reprisals.

The research and development expenses incurred in bringing to the

market a new drug were heavy. The "interested person" granted a licence paid no royalty until after he had received it in sales income. If the product became technically obsolesced he could "get out with a profit." He never had money at risk, and made no contribution to knowledge or to the balance-of-payments problem.

As an urgent matter, said Mr. Howard, Section 41 of the Patents Act had to be administered differently. In long term he wanted it erased.

Not Comparable With Other Industries

Replying to the toast PROFESSOR SIR CHARLES DODDS (president of the Royal College of Physicians) said that, as one who had studied carefully the problem of patents over many years, he had never before heard the position put so clearly and forcefully. He felt that the real problem of the industry lay in public and professional ignorance of its functions (and gave one or two examples). A complete revolution had been effected in therapy and, with few exceptions, those advances had come from research laboratories of industry. The ordinary business man and administrator, who had no specific knowledge of the pharmaceutical industry, tended to judge it in the same light as other industries. That was entirely erroneous. Unlike, say, the motor-car manufacturer of 1910, who was still manufacturing motor cars in 1965, the pharmaceutical manufacturer had no idea what he would be manufacturing in even a few months' time. At a pharmaceutical plant in America he had seen a magnificent installation for the production of the anti-pneumococcal serum types 2 and 3, produced in rabbits, and at the time the only specific treatment for pneumonia. That company's enormous set-up had disappeared overnight, so to speak, when M. & B. 693 was introduced. The antibiotics arrived a few years later, so the manufacturer had to go on first to chemical synthesis and finally to fermentation. If that hazard of the industry were recognised, administrators would be more sympathetic, he felt sure, towards the industry.

EXPANSION PROJECTS

BY the purchase of adjoining land and buildings W. J. Bush & Co., Ltd., are adding 5½ acres to the 21-acre site of their fruit processing factory at Witham, Essex. The newly acquired property covers a floor area of 67,000 sq. ft. and includes 200,000 cu. ft. of refrigerated space. In addition there are 2½ acres of undeveloped land. Bush have been processing fruit at Witham since 1947 and increased their productive capacity there in 1952 by the erection of additional buildings and plant. Future developments made possible by the extension of the Witham factory include the processing of citrus fruit juices, now carried on at Tottenham, and the transfer of the food colour department from the Hackney works.

A "Treasure-house for Drugs"

HANBURY MEMORIAL LECTURER'S WORK ON ERGOT

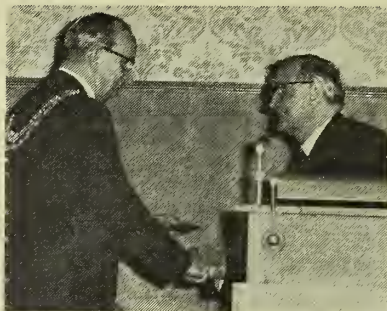
THE 1964 Hanbury Memorial medal, founded in memory of Daniel Hanbury and awarded for "high excellence in the prosecution or promotion of original research in the natural history and chemistry of drugs," was presented to PROFESSOR A. STOLL, F.R.S., at a ceremony at the School of Pharmacy, University of London, on March 24 by Mr. C. W. Maplethorpe (president, Pharmaceutical Society). Dr. F. Hartley (dean of the School) presided.

Subject of Professor Stoll's lecture, which he then gave, was "Ergot—a Treasure-house for Drugs." He recalled that he had worked for many years on chlorophyll, photosynthesis and enzymes in Professor Richard Willstätter's laboratory, and the studies of chlorophyll had opened up a new era in the chemistry of natural products. Arbitrary elaborations of molecular structure were now avoided. The natural substances were kept and studied in their natural state as long as possible. To separate and isolate natural substances the author and his collaborators had had recourse to physical methods such as were today found in highly sophisticated forms in, for example, chromatographic equipment. The principle adopted had been that of Adolf von Baeyer: "One should not command nature but hearken to her."

A Distinctive Approach

In preventing or making allowance for enzymatic breakdown reactions in isolating natural products a new line had been taken. Applied to the breakdown of chlorophyll by the enzyme chlorophyllase, the method had pointed the way to later investigations in which enzymes had to be prevented from influencing natural substances, or deliberately used to elicit certain reactions. Those early investigations had, said the speaker, given him the knowledge required for the work he was to do when he joined Sandoz in 1917 to set up and manage a pharmaceutical department. His programme had been to isolate and investigate natural products in their original state with a view to using them in pharmacy and medicine. The work had covered various types of starting material, such as ergot, squill, digitalis, strophanthus and senna. "I continued my work on chlorophyll with Erwin Wiedemann, and together we contributed to the elucidation of the finer structure of the chlorophylls and were able to demonstrate and determine their optical activity for the first time. After many years we succeeded in obtaining chlorophylls a and b in such a pure, wax-like state that they crystallised."

One of the first drugs to be tackled at Basle was ergot, which for centuries had been used in therapy, though with varying results. In 1918 there was uncertainty as to its active principles, though attempts to isolate them had been made for more than fifty years—without success until the French



Professor Stoll receives the Hanbury Memorial medal from Mr. Maplethorpe.

pharmacist Charles Tanret obtained, in 1875, a crystalline, apparently active, preparation which he called "*ergotinine cristallisée*." Early in the twentieth century Barger and Carr isolated an ergot preparation which they called ergotoxine, and the Swiss pharmacist Kraft obtained at the same time a similar product which he called "hydro-ergotinine." Though Sir Henry Dale had observed that ergotoxine elicited powerful contractions of the uterus—a property that accounted for the obstetrical use of ergot in olden days—and though both ergotinine and ergotoxine were included in pharmacopœias, they were rarely used in therapy.

Dale made the fundamental discovery that ergotoxine exerted a marked sympatholytic effect on the autonomic nervous system (that it manifested, for example, as antagonism to adrenaline). That property was the basis of the extensive modern use of ergot preparations in internal medicine and neurology.

In 1918 pure crystalline preparations were urgently required for the prevention of post-partum hæmorrhage—the only important indication for ergot at that time, but many cases were reported in which ergot products proved ineffective and unreliable. The speaker had therefore set himself to isolate the pure active principle, so as to make available to the medical profession a form that could be administered by weight and always exert the same effect. As a result of the author's experience with sensitive natural products he had succeeded, within a few weeks, in obtaining a crystalline preparation from ergot of Swiss origin. He had started from the premise that the active substances in ergot must be sensitive alkaloids of relatively complicated structure that were slowly absorbed. The preparation

he obtained proved to be physically and chemically uniform, and was thus characteristically different from ergotinine and ergotoxine. It was given the name ergotamine. Studies in animals and human beings revealed, on organs with smooth muscle, a powerful and long-lasting effect that is now regarded as specific to ergot. Thus ergotamine could be used to sure effect for the control of hæmorrhage in the post-partum period. With the pure product ergotamine it was possible to extend pharmacological studies to the autonomic nervous system, for ergotamine also exerted in high degree the sympatholytic effect of ergot first noted by Dale. It also provided a starting-point for investigations into its chemical structure, with the long-term aim of synthesis. That was not achieved until about forty years later, but long before then the structure of parts of the relatively complicated molecule had been elucidated, making possible partial chemical modifications and leading to surprising changes in pharmacodynamic actions.

Ergotamine was the first uniform active principle obtained from ergot, but in due course a series of alkaloids with similar structures were isolated. The table (given below) depicted the most important natural alkaloids and their dextro-rotatory isomers so far isolated from ergot:—

TABLE I

NAME	FORMULA	DISCOVERED BY
1. ERGOTAMINE GROUP		
ergotamine	$C_{28}H_{35}O_8N_5$	A. Stoll (1918)
ergotaminine	$C_{28}H_{35}O_8N_5$	Smith and Timmis (1936)
ergosine		
ergosinine		
2. ERGOTOXINE GROUP		
ergocristine	$C_{28}H_{35}O_8N_5$	Stoll and Burckhardt (1937)
ergocristinine	$C_{28}H_{41}O_8N_5$	
ergokryptine	$C_{28}H_{39}O_8N_5$	Stoll and Hofmann (1943)
ergokryptinine		
ergocornine	$C_{28}H_{39}O_8N_5$	Stoll and Hofmann (1943)
ergocorninine		
3. ERGOSTINE GROUP		
ergostine	$C_{28}H_{37}O_8N_5$	Schlientz et al. (1964)
ergostinine		
4. ERGOMETRINE GROUP		
ergometrine	$C_{19}H_{23}O_2N_3$	Dudley and Moir Kharasch and Legault Stoll and Burckhardt Thompson (1935)
ergometrinine		

In it the alkaloids were grouped according to chemical composition, the ergotamine group comprising ergotamine and ergosine. The old term "ergotoxine" could not be used for a pure, uniform alkaloid as the previously known ergotoxine preparations had been shown to be isomorphous mixtures of three alkaloids in varying proportions, it had therefore been reserved for the group. The third group contained, so far, only one alkaloid, ergostine, which was present in quantities corresponding to 1 per cent. of the total alkaloids. It was nevertheless, in-

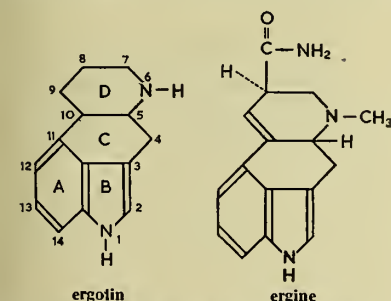
structive, for it incorporated a new variant and lay, structurally, between ergotamine and ergocristine. The ergometrine group, also comprising only one alkaloid, differed from the others in structure. Ergometrine had a simpler structure.

A Soluble Base

In contrast with the other alkaloids mentioned, the free base ergometrine was soluble in water. Following an observation by Chassar Moir that aqueous extracts of ergot exhibited marked oxytocic activity, ergometrine was simultaneously isolated in 1935 in four laboratories: by Dudley and Moir in London; by Kharasch and Legault in Chicago; by Thompson in Baltimore; and by Burckhardt and Stoll in Basle. As yet, ergometrine was the only natural, potent alkaloid of ergot that was soluble in water.

As the table showed, all natural ergot alkaloids occurred in pairs. The highly active alkaloids, which were laevo-rotatory in chloroform, had their counterparts in dextro-rotatory alkaloids showing only a weak physiological activity. All were reversibly interconvertible, and that fact alone might partly account for the considerable variations in effect exhibited by galenical preparations of ergot. The conversion of ergotamine to ergotaminine, which was extremely insoluble, was perhaps the reason why ergotamine, which in pure form readily crystallised, was not isolated for such a long time, since careless processing of ergotamine resulted in its transformation to ergotaminine, which was then lost.

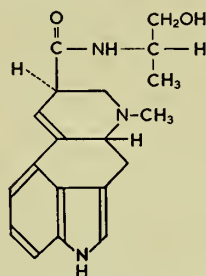
The component characteristic of all ergot alkaloids was lysergic acid, first isolated and largely elucidated by Jacobs and Craig in New York. They used a boiling 7 per cent. aqueous solution of caustic potash and obtained a mixture of lysergic acid and isolysergic acid as characteristic breakdown products. Oxidation of the ergot alkaloids and lysergic acid yielded a quinoline-betaine-tricarboxylic acid. Alkaline treatment of dihydrolysergic acid yielded methylamine, propionic acid, 1-methyl-5-amino-naphthalene and 3,4-dimethylindole. Those cleavage products were built up into a novel tetracyclic ring system, ergolin, with the following formula (at left):—



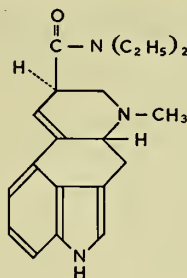
Though lysergic acid might be regarded as a characteristic component of all natural ergot alkaloids, and even of the synthetic active principles, only when with basic components in amide-like bonds did it acquire physiological importance. The simplest amide was lysergic acid amide, ergine (above).

For a long time ergine had been regarded merely as a hydrolytic breakdown product of ergot alkaloids, but it had been obtained from ergot growing on the wild grass *Paspalum distichum* and, more recently, from the seeds of two flowering plants, *Rivea corymbosa* L. and *Ipomœa tricolor*, of the *Convolvulaceae* family. The seeds of those two climbing plants were used by the natives of Southern Mexico for mystic purposes, evidently because of their ergine content.

Substances of marked effectiveness could be obtained by replacing the hydrogen atoms on the nitrogen group by alkyl. The first example was of a highly active natural product, ergometrine (d-lysergic acid propanolamide) having the structure:—



Certain compounds with secondary amines, particularly lysergic acid diethylamide (LSD 25, Delysid) had been found to exert wholly unexpected pharmacodynamic effects, and LSD 25 had played a major rôle in modern psychiatry. Its formula was:—



The compound was one of a large series of simple acid amides of lysergic acid prepared as long ago as 1938 and found to have marked uterotonic properties. In view of the similarity of ring D with the structure of the anaesthetic nikethamide, Hofman in the Sandoz laboratories had reinvestigated the substance in 1943 and discovered, by accident, its extraordinarily powerful and specific effect on the human psyche. Early studies revealed a wide range of effects on the central nervous system and its functions, the most important of them being activation of the electro encephalograph, stimulation of synapses in the reticular formation (associated with increased reactivity to sensory stimuli), and stimulation of central sympathetic structures (manifested by mydriasis, increase in body temperature, etc.). Human beings were far more sensitive than animals to LSD.

During the pharmacological investigations on LSD and related substances some were found to be potent antagonists of serotonin (5-hydroxy-tryptamine) which was also an indole derivative. Occurring normally in the body, it accumulated in the brain, particularly the hypothalamus, and appeared to play a rôle in central nervous processes. The anti-serotonin activity could be demonstrated on serotonin-induced œdema of the rat paw *in vivo*, and was particularly pronounced in compounds alkylated at the indole nitrogen. The activity of the methylated derivatives of ergometrine and d-lysergic acid-butanolamide (methysergide) was equivalent to several times that of LSD. Methysergide (Deseril, Sansert) had been made available to the medical profession. The indications for its use had not yet been completely established, but it had proved effective in certain carcinoid cases by markedly alleviating the troublesome symptoms of diarrhoea, flushes and dyspnoea. Its effect in the prophylactic treatment of vascular headache refractory to other therapy was much more impressive and interesting results had been obtained in

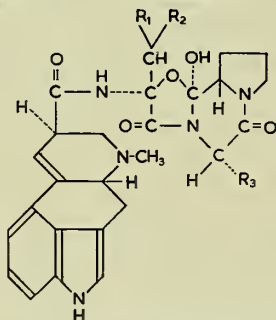
TABLE 2: PRODUCTS OF HYDROLYTIC DEGRADATION OF THE ERGOT ALKALOIDS OF THE PEPTIDE TYPE

d-lysergic acid (d-iso-lysergic acid)	NH ₂ L-proline	pyruvic acid	L-phenylalanine:	ergotamine (ergotaminine)	} ergotamine group
			L-leucine:	ergosine (ergosinine)	
			L-valine:	ergovaline (ergovalinine)	
d-lysergic acid (d-iso-lysergic acid)	NH ₂ L-proline	dimethyl-pyruvic acid	L-phenylalanine:	ergocristine (ergocristinine)	} ergotoxine group
			L-leucine:	ergokryptine (ergokryptinine)	
			L-valine:	ergocornine (ergocorninine)	
d-lysergic acid (d-iso-lysergic acid)	NH ₂ L-proline	α-keto-butyric acid	L-phenylalanine:	ergostine (ergostinine)	} ergostine group
			L-leucine:	-----	
			L-valine:	-----	

rheumatic disorders, allergies and peripheral vascular disorders.

All the active substances so far mentioned were derived from the relatively simple natural product ergometrine. The structure of the alkaloids of the ergotamine, ergotoxine and ergostine groups was far more complicated. Those alkaloids were peptides. On complete hydrolysis they yielded the breakdown products shown in table 2.

The general formula for the peptide type of ergot alkaloid was:—



it with caffeine. In small doses it exerted a sedative effect on the central nervous system and the drug was also used to prevent and to treat hypotension due to spinal anaesthesia. In obstetrics it had been displaced by ergometrine and methyl ergometrine, which had a quicker onset of action. The prolonged uterotonic action of ergotamine had been combined with the rapid onset of uterotonic action of ergometrine in Neo-Femergin.

Recently an interesting effect of ergocornine, one of the alkaloids in

edly enhanced. Dihydroergotamine sedated the sympathetic division of the autonomic nervous system by a central action as well as by peripheral antagonism to adrenaline. It had proved useful in treating vascular headaches, neurocirculatory dystonia and orthostatic hypotension.

Another product on the market. Hydergine, consisted of equal quantities of dihydroergocristine, dihydroergokryptine and dihydroergocornine—that is, the hydrogenated forms of alkaloids in the ergotoxine group. Principal

$R_1 - R_2 = H$	$R_1 - R_2 = CH_3$	$R_1 = H; R_2 = C_2H_5$	R_1
Ergotamin	Ergocristin	Ergostin	
Ergosin	Ergokryptin	---	
[Ergovalin]	Ergocornin	---	

Neither the chemical nor the pharmacological studies on the ergot alkaloids had yet been concluded and new indications had recently been discovered even for the natural ergot alkaloids. Ergotamine, originally used solely for the treatment of uterine atony, was of greater interest for its vasoconstrictor action which had made it the standard drug for aborting migraine attacks. That effect had been enhanced by combining

the ergotoxine group, had been discovered. With a single, small dose of ergocornine it was possible to inhibit pregnancy in rats, probably by preventing nidation of the fertilised ovum.

Hydrogenation of the double bond at position 9, 10 of ergotamine resulted in quantitative and qualitative changes in pharmacological activity. The oxytocic effect was largely abolished and the adreno-sympathicolytic action mar-

effects of that product comprised dilatation of peripheral blood vessels, increase in cerebral blood flow, and protection of the organism against adrenergic stimuli.

A large number of compounds developed over several decades were without sympathicolytic action. But, even with the ergot preparations already available, the therapeutic possibilities had not been exhausted.

TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

From the "Trade Marks Journal," April 7

For pharmaceutical, veterinary and sanitary substances, infants' and invalids' foods, medical and surgical plasters, material prepared for bandaging, material for stopping teeth, dental wax, disinfectants and preparations for killing weeds and destroying vermin (5)

TRISAMINOL, 866,599, by Laboratoire Roger Bellon, Neuilly-sur-Seine, France.

For infants' and invalids' foods (5)

TOPPAR, B866,111, by Toppa Holdings, Ltd., Melbourne, Victoria, Australia.

For oral contraceptives (5)

FEMINOR SEQUENTIAL, 866,463, by London Rubber Co., Ltd., London, E.C.2.

For materials prepared for bandaging; ligatures; dressings, tissues, plaster and gauze, all being for medical or surgical purposes; and sanitary clothing (5)

FLOCOVYL, 866,825, by Societe Rhovyl, Paris, France.

For menstruation bandages, menstruation belts, menstruation knickers, menstruation pads, menstruation underclothes, sanitary towels and menstruation absorbent cotton (5)

ANNE, 867,420, by Anne Co., Ltd., Tokyo, Japan.

For pharmaceutical preparations for use by spraying as dressings for wounds, cuts, bruises and the like (5)

SPRAY-KIN, 867,699, by Beauty Counselors of London, Ltd., Newhaven, Sussex.

For gamma-globuline, being a veterinary preparation derived from cattle (5)

GAMABOVINE, B868,101, by Behringwerke, A.G., Marburg/Lahn, Germany.

For surgical dressings made of rayon staple yarns (5)

Device with word NOVALIND, 869,313, by Wundtextil, G.m.b.H., Nordhorn, West Germany.

For pharmaceutical preparations and substances for veterinary use (5)

VIXITON, 868,168, by A.B. Astra, Apotekarnes Kemiska Fabrik, Sodertalje, Sweden.

For preparations for the purification and freshening of air, and deodorants (5)

PERMINOVA FRESHY 77, 868,517, by Perminova, A.G., Zurich, Switzerland.

For medicines and medicated preparations, oil for human use (5)

Device with words DIAMOND BRAND, 868,702, by Luen Fook Co., Singapore 2.

For preparations for killing weeds and destroying vermin (5)

SUPERLENE, 868,976, by Fisons Pest Control, Ltd., Harston, Cambs.

For insecticides, rodenticides and preparations for killing weeds (5)

ROPAC, B869,062, by Kay Brothers, Ltd., Stockport, Ches.

For medicated oils (5)

DEGUYANA, 869,738, by Ahmad Ally, London, N.14.

For all goods (5)

INGOHALER, 870,591, SUPRIDOLAN, 871,462, by C. H. Boehringer Sohn, Ingelheim-on-Rhine, Germany.

For vitamin food supplements being chemical preparations in tablet form and fed to animals for nutritive purposes, all containing enzymes (5)

RAB-ZYME, B870,796, by Phillips Yeast Products, Ltd., London, N.W.10.

For pharmaceutical preparations, oil containing vitamins (5)

CITRUVIT, 871,134, by Carter Bros., Shipley, Yorks.

For veterinary preparations and substances, all containing amines (5)

HEPRAMIN, 870,935, by Pfizer, Ltd., Sandwich Kent.

For pharmaceutical and veterinary substances (5) ZAWB-O-LYTE, 871,791, by Willows Francis, Ltd., London, E.8.

For pharmaceutical preparations and substances (5)

ENTAIR-A, 871,973, by The British Drug Houses, Ltd., London, N.1.

For antiseptics, disinfectants and germicides (5) SANPRESS, 872,990, by Jack Phillips, London, W.2.

For veterinary preparations and substances (5) AVEXIN, 873,304, by Wellcome Foundation, Ltd., London, N.W.1.

For unmedicated biscuits being dietetic foods for use in slimming (5) and for biscuits (other than biscuits for animals) (30)

RAKUSEN'S SLIMLYNE, B848,992-93, by Lloyd Rakusen & Sons, Ltd., Leeds, 7.

For photographic, optical and measuring apparatus and instruments, etc. (9)

ARNA, 871,387, by Army & Navy Stores, Ltd., London, S.W.1.

NEW COMPANIES

P.C.=Private Company, R.O.=Registered Office

G. R. BINGLEY, LTD. (P.C.)—Capital £100. To carry on the business of chemists, etc. Directors: Nellie Bingley and George R. Bingley, R.O.: 86 St. Mary's Road, London, W.5.

BROADBANK CHEMISTS, LTD. (P.C.). —Capital £100. To carry on the business of manufacturers of and dealers in chemicals, drugs, etc. Subscribers: S. Feldman and Mrs. B. Matz, 149 Hanover Road, London, N.W.10.

CADRE COSMETICS, LTD. (P.C.).—Capital £100. To carry on the business of manufacturers of and dealers in cosmetics, perfumes, etc. Directors: James F. Bosworth and Victor Kano, R.O.: 47 Oxford Street, London, W.1.

DEVERELL DRUG STORES LTD. (P.C.). —Capital £100. To carry on the business of dispensing chemists, etc. Directors: Marion A. Deverell and Richard Deverell, R.O.: 23 Albermarle Street, London, W.1.

TRADE REPORT

The prices given are those obtained by importers, or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, APRIL 28: Trading remained on the dull side in CRUDE DRUGS during the week.

The most interesting price movement was in CASCARA, which rose sharply by 1s. per cwt. for shipment and 10s. for lot delivery. CHERRY BARK was also advanced by one penny per lb. for shipment. Costa Rican IPECACUANHA eased, allowing a resumption of shipment offers. SARSAPARILLA, on the other hand, was unchanged on the spot, though shippers began to offer again after a lull of several weeks. The GINGER market declined further. MENTHOL was steadier and ended the week unchanged. MERCURY stayed at the previous week's record level of £205 per 76-lb. flask, though dealers said that that price was nominal and that sales had been effected at a much higher price. The phenomenal rise in the metal can be seen when it is recalled that a year ago the price was £87 per flask.

In ESSENTIAL OILS, prices of all except CITRONELLA held steady at previous levels; spot oil from all sources was marked up by threepence per lb. Whilst prices of PHARMACEUTICALS remained for the most part unchanged, definitely firmer trend was afoot. ANNIC ACID was increased by threepence per lb. LACTIC ACID and LACTATES were expected to go up within the next week; so too are the MERCURIALS.

The Board of Trade has given notice that it is considering applications for the imposition of anti-dumping duties on imports of maize and milo starches originating in Holland, Belgium, the Federal Republic of Germany, France and Jugo-Slavia; potato starch (farina) originating in Holland and the Federal Republic of Germany, and liquid glucose originating in Holland and Belgium. The timing of the applications seems inappropriate, since the makers of GLUCOSE MONOHYDRATE have not been able for long time to satisfy the demand and the price has consequently been rising. The reason for the shortage was said to be the recent dock strike in the United States, which held up maize shipments. Some cargoes were then routed via Canadian ports, adding to the transport costs.

Pharmaceutical Chemicals

where material is of foreign origin prices below may be subject to import surcharge.

ACETIC ACID.—Per ton, in bulk; B.P.C. £80 to £84; 98-100 per cent. £76 to £80. Technical 80 per cent. grades: re £70 to £74; technical, £64 to £68. Small lots B.P.C., 5-gall. demijohn, 16s. per gall.; 10 demijohns, 11s. per gall.

ACETYSALICYLIC ACID. — One-ton lots, 04d. per lb.; 5-cwt., 4s. 5d.; 1-cwt., 8d.

p-AMINOSALICYLIC ACID. — SODIUM, 1s. 6d. per kilo for 1,000-kilo lots.

CITRIC ACID.—Domestic powder in bags, per cwt. 1-4-cwt. lots, 21s.; 5-19 cwt., 2s.; 1 ton, 208s. Crystals plus 10s. cwt.

HYDROUS powder and granular plus 10 per cent. All less 7s. cwt. if in bags.

FUMARIC ACID.—Food grade in 5-cwt.

lots is 227s. to 234s. per cwt. according to container.

GALLIC ACID.—B.P., 11s. 9d. per lb. for 1 cwt. lots; 5-cwt. 11s. 6d.

GLYCRRHETINIC ACID.—Per oz., 50s.

HYDROCHLORIC ACID.—B.P. 50s. per cwt. in carboys.

HYDROCYANIC ACID.—Dilute B.P.C. 1954, from 4s. to 4s. 7d. per litre, as to quantity; Scheele's from 4s. 9d. to 5s. 4d.

HYPOPHOSPHOROUS ACID. — B.P.C., 1959, 15s. 5d. per kilo; 50 per cent., 19s. 3d.

MANDELIC ACID.—One-cwt. lots, 12s. 6d. per lb. CALCIUM SALT, also 12s. 6d. SODIUM MANDELATE, 13s. and AMMONIUM MANDELATE 50 per cent. solution, 7s. 6d.

MERCURY DERIVATIVES.—Rates (per kilo) for under 50-kilo lots—AMMONIATED MERCURY, B.P., powder, 136s.; PERCHLORIDE, B.P.C., powder, 119s.; SUBCHLORIDE (calomel), B.P.C., 138s.; OXIDES, yellow, B.P.C., 129s. 6d.; red B.P.C., 1949, 149s.; IODIDES, B.P.C., 1954 (25-kilo lots), 103s. per kilo; OXYCYANIDE (10 kilos), 195s.

OLEIC ACID.—B.P. grade, £186 10s. per ton; 1-gall. lots, 22s. 8d.

OXALIC ACID.—Manufacturers' rates for 4-ton lots, £153 per ton.

PHOSPHORIC ACID. — B.P. (s.g. 1.750) drums, 1s. 4d. per lb.; bottles from 4s. 7d.

PYROGALLIC ACID. — One-cwt. pure crystals, 27s. 9d. per lb.

SALICYLIC ACID. — 5-cwt. lots, 3s. 2½d. per lb.

SULPHURIC ACID.—Ninepence to 1s. 2½d. per lb. in winchesters.

TANNIC ACID.—The B.P. fluffy, 9s. per lb. (5-cwt. lots) and powder, 8s. 9d.

TARTARIC ACID. — (In kegs): 1-ton lots, 275s. per cwt.; 5-19 cwt., 281s.; 1-4 cwt., 284s. Bags 8s. cwt. less. Crystals 7s. per cwt. more than powder and granular.

THIOGLYCOLLIC ACID. — Basic rates per lb., 97-98 per cent., 26-lb. packs, 15s.; 75 per cent., 11s. 6d. AMMONIUM THIOGLYCOLLATE, 40 per cent. pH 9.3 (24-lb. packs), 6s. 8d.; MONOETHANOLAMINE THIOGLYCOLLATE, pH 9.9 4 per cent., 9s. 10d. All carriage paid United Kingdom and subject to purchase tax.

Crude Drugs

AGAR. — Kobé No. 1, 13s. per lb. in bond; shipment, 12s. 6d., c.i.f. Spanish, 15s. to 15s. 6d., duty paid.

BALSAMS. — Per lb.: CANADA: Spot, 21s. 6d. to 25s. COPAIBA: B.P.C. 11s. 6d. PERU: 20s., spot; 19s., c.i.f. TOLU: B.P., from 10s. 6d. to 27s. 6d.

CASCARA. — Spot, 225s. 6d. per cwt.; shipment, 218s., c.i.f.

CASSIA. — *Fistula*, 105s. per cwt. spot; *lignea*, whole shipment 202s. 6d., c.i.f.; selected broken, 177s. 6d., c.i.f.

CHILLIES. — Zanzibar, spot, 315s. per cwt. Mombasa, spot, 250s., nominal.

GINGER.—(Per cwt.) Nigerian, June-July shipment (c.i.f.), split, 105s.; peeled, 210s. African, spot, 265s. per cwt.; shipment, April-May, 230s., c.i.f. Jamaican No. 3, spot, 370s.; shipment, 350s., c.i.f. Cochinchina, spot, 300s., April-May shipment, 325s., c.i.f.

IPECACUANHA.—Matto Grosso for shipment, 56s. per lb., c.i.f. and spot, 60s. Colombian, 55s., c.i.f.; spot, 61s. 6d. Costa Rican 75s., c.i.f. and 79s., spot.

MERCURY. — Spot nominally £205 per flask of 76-lb. ex warehouse.

PEPPER. — White Sarawak spot from 2s. 11d. to 3s. 3d. per lb.; shipment, 2s. 11½d., c.i.f. Black Sarawak spot, nominally 3s. 2d. Shipment, 2s. 6½d., c.i.f. Black Malabar spot, 3s. 5d. per lb.; shipment quoted at 357s. 6d. per cwt., c.i.f.

SARSAPARILLA. — Jamaican native red spot, 3s. 6d. per lb.; shipment, 3s., c.i.f.

SEEDS. — (Per cwt.) ANISE. — Spanish, 250s., duty paid. CARAWAY.—Dutch, 135s., duty paid. CELERY.—Indian, 185s., spot; shipment, current crop, 157s. 6d., c.i.f.; new-crop for June-July shipment, 152s. 6d., c.i.f. CORIANDER.—Moroccan, 56s. 6d., duty paid; shipment, current crop, 42s. 6d., c.i.f.; new-crop for June-July, 43s., c.i.f. CUMIN.—Cyprian, 345s., spot; Moroccan, 340s., duty paid; Indian, 335s.; shipment, Cyprian, 307s. 6d., c.i.f. Moroccan current crop, 270s., c.i.f., new-crop for May-June, 230s., c.i.f.; Indian, 260s., c.i.f. DILL.—Indian, 110s., spot; shipment, 87s. 6d., c.i.f. FENNEL.—Chinese, 125s. to 145s., duty paid; Indian, nominal, 200s.; shipment; Chinese, 112s. 6d., c.i.f.; Indian, 160s., c.i.f. FENUGREEK. — Moroccan, 45s. 6d., duty paid; shipment, current crop, 34s., c.i.f.; new-crop for June-July, 34s. 6d., c.i.f. MUSTARD.—English, 52s. 6d. to 80s., according to quality.

SENNA. — (Per lb.). Tinnevely LEAVES spot: Prime No. 1, 2s.; prime No. 2, 1s. 8d.; No. 3, f.a.q., 1s. 2d. Shipment: No. 3, 1s., c.i.f. PODS: Tinnevely hand-picked, 1s. 8d. to 2s. as to quality; spot, manufacturing 1s. 2d.; shipment, 11d., c.i.f. Alexandria PODS: small parcels on spot of hand-picked at 8s. 6d. and 10s.; manufacturing, forward, 2s. 7½d., c.i.f.

TRAGACANTH.—Ribbon, No. 1, £200 per cwt. No. 2, £185.

TURMERIC. — Madras finger on spot is 145s. per cwt.; shipment, new crop quoted at 127s. 6d., c.i.f. for April-May.

Essential and Expressed Oils

BOIS DE ROSE. — Brazilian, spot, from 16s. 9d.; shipment, 15s. 6d., c.i.f.

CAMPHOR, WHITE. — Chinese for shipment, 4s. 6d., c.i.f., per kilo; spot, 6s.

CITRONELLA. — Ceylon, spot, 6s.; shipment, 5s. 9d. per lb., c.i.f.; Formosan, 5s., in bond; shipment, 4s. 10½d., c.i.f.; Chinese, spot, 5s. in bond; shipment, 4s. 9d., c.i.f.

LEMON.—Sicilian from 17s. to 26s.

PALMAROSA. — Shipment, 50s. per lb., c.i.f.; spot, 54s.

PATCHOULI.—Penang forward is nominally, 56s. per lb., c.i.f.

PEPPERMINT. — *Arvensis*: Chinese for shipment, 12s. 6d., c.i.f.; spot, 12s. 6d. Brazilian for shipment, 12s. 3d.; c.i.f.; spot, 12s. 3d. *Piperita*: Italian, 48s. to 60s., spot; American from 35s. per lb. as to make.

RUE.—Spanish is 22s. 6d. per lb., spot.

SANDALWOOD.—Mysore, 106s. 6d. per lb. spot. East Indian for shipment, 112s., c.i.f.

VETIVERT. — Bourbon, spot, 90s. to 100s. per lb.

UNITED STATES REPORT

NEW YORK, APRIL 27: Prices of an extended line of ANTIBIOTICS have been advanced. In ESSENTIAL OILS other price advances included: PATCHOULI \$8.25 per lb. (from \$7.75) and VETIVERT, Bourbon, \$15 (\$14.25).

POWDER FLOW

Rheologists' symposium at Nottingham

THE Spring 1965 meeting of the British Society of Rheology, held at Nottingham University on April 7 and 8, was concerned with "The Flow of Powders and Granular Materials." Several papers presented at the meeting were of interest to pharmacists, notably that of MR. J. A. HERSEY (school of pharmacy, London University), who concluded the conference with an excellent review of the problems that beset the various stages through which a powder must pass as it is fed to and compressed in a rotary tableting machine. Hersey was able to show how most of the other ten papers presented had thrown light on the difficulties encountered.

Three papers dealt with flow from hoppers. MESSRS. I. R. MCDUGALL and A. C. EVANS (chemical engineering department, Leeds University) developed an equation, based upon simple assumptions, giving the outflow rate from a powder hopper containing a rather idealised cohesion-free powder. They postulated a close analogy between the flow of the powder and the flow of a liquid. The validity of the analogy was questioned by MESSRS. R. L. BROWN and J. C. RICHARDS (British Coal Utilisation Research Association), whose paper reported phenomena that do not occur in liquids. Their work on the flow of powders and of ball-bearings using high speed camera techniques indicated that dilatant waves pass upwards through the descending powder, that an arch is formed just above the outlet, below which movement is by free fall, and that there is a statistically empty space near the edge of the outlet—empty in the sense that very few balls pass through it.

In hopper design it is known that, by sloping the conical base at 70° or more, the powder can be made to discharge evenly from all parts of the hopper—the powder surface as it moves down remains level and does not dip in the centre. For shallower angles than the 70° or "mass-flow" hopper, a central core discharges and there is dead material near the walls and base during the flow, even though the hopper is self-draining when allowed to empty completely.

Measurements by "Radio Pill"

MESSRS. M. F. HANDLEY and M. G. PERRY (fuel technology department, Sheffield University) placed a "radio pill" (better called a radio capsule) amongst the discharging powder in a hopper. The pill measures pressures and flow movements, and transmits the values continuously to a radio receiver. In size, about $\frac{1}{2}$ in. x $\frac{1}{4}$ in., the pills were originally developed for oral administration to patients, and were designed to transmit medical information on internal temperature, gut movement and pH.

When a powder flows, a yielding phenomenon must be occurring somewhere within it, with layers of particles sliding or shearing over one another. Measuring the force needed to shear a powder can give useful quantitative information on its flow properties. MR. M. G. PERRY,

in association with MR. T. M. LOWES, explained the use of a simple shear-measuring apparatus in which a conical heap of the powder is formed on a flat plate, which is then tilted until a slip-plane suddenly passes through the heap. The angle of tilt is a reproducible measure of the shear strength. MESSRS. J. C. WILLIAMS and A. H. BIRKS (Bradford Institute of Technology) showed how packing a powder into the standard Jenike shear cell or flow-factor tester could be reproducibly done more; MESSRS. M. D. ASHTON, R. FARLEY and F. H. H. VALENTIN (Warren Springs Laboratory, Department of Scientific and Industrial Research) gave an account of

shear and tensile testing of about thirty powders. Their results are neatly correlated by importing some concepts originally developed by workers in soil mechanics. The compressive yielding of solids during a compaction process, as in a tableting machine, is brought into line with the expansive or dilatant yielding during flow of a powder. The two phenomena may be seen as two parts of a "yield surface" when a three-dimensional graph is made of bulk density or voidage against the compressive and shear forces applied; and, as DR. HERSEY pointed out, shear forces greatly increase the strength of a compact. Rotating punches are now available for use in tableting machines that give a twist or shear during compaction, and so produce an improved tablet at lower pressure.

CHEMICAL AND DYESTUFFS TRADERS

Annual report and luncheon of the Association

THE forty-second annual report of the British Chemical and Dyestuffs Traders' Association was presented at the Association's annual meeting in London on April 27. The report said, among other things:—

Overshadowing all other events during the year was the imposition of the 15 per cent. temporary import surcharge by the present Government, effective from the day of its announcement (October 27, 1964). That was a serious blow to all members of the Association, especially because of the non-discriminatory character of the Order and its disregard for problems in respect of transit goods. Members were kept fully informed of the vigorous and constructive protests sent from the Association to the Ministers and Government Departments concerned. The Association also stressed the need to protect the position of merchants' stocks if and when a part or the whole of the levy was eventually lifted. "The Government's decision to give notice of the lifting of 5 per cent. today may well have been influenced by the representations made by the Association and other similar bodies."

Parallel with that legislation the Government gave an incentive to exporters by the export rebate scheme. The rebate was welcome to many exporter members, but some uncertainties as to interpretation occasioned special discussions with Government Departments.

The Association is closely concerned with the operation of the import tariffs of the United Kingdom and of other countries. Current rates of duty within the European Free Trade Association are 20 per cent. of the rates operating at the beginning of 1960, whilst the European Economic Community are rapidly approaching the total elimination of duty barriers between their member countries. Unless concessions are made by both groups, the prospect is one of great difficulty, both in trade frustrations and in the complexity of the United Kingdom tariff structure.

The call for free trade, in the sense of inviting unrestricted world competition, is no longer heard. Instead, the pursuit of trade expansion is now expressed in the current negotiations

under the General Agreement on Tariffs and Trade, which have yet to yield any positive results. A real and early solution is urgently needed if confidence is to be maintained.

Progress in international trading relationships must depend on more co-operation and a readiness to accept change, and it may be said that it is in the collective approach to new conditions that the representative trade association serves its most useful purpose.

Officers for the year are: *President*, Mr. G. S. Bache; *Vice-president*, Mr. C. W. Lovegrove; *Chairman*, Mr. D. E. Flaherty; *Vice-chairman*, Mr. Fred Weil; *Treasurer*, Mr. J. Berthoud; *Council*, Messrs. D. A. Gates (Bush, Beach & Segner Bayley, Ltd.), J. Markman (Production Chemicals (Rochdale), Ltd.), H. R. Peters (J. M. Steel & Co., Ltd.), D. F. Waugh (Tar Residuals, Ltd.), and Kingsley Williams (K.W. Chemicals, Ltd.).

Annual Luncheon

Principal guest at the Association's annual luncheon on April 27 was the Rt. Hon. QUINTIN HOGG, Q.C., M.P. He and the other guests were the subject of a toast by the Association's chairman (MR. KINGSLEY WILLIAMS, J.P.), who mentioned that they comprised representatives of kindred associations, Government departments and the Press. Members of the Association were appreciative, he said, of the 5 per cent. reduction in import surcharge that was taking effect that day. They had regarded as "Black Monday" that other day (October 26, 1964) on which the 15 per cent. surcharge had been imposed.

In his response Mr. Hogg said that the worst features of the surcharge were that it was a breach of international obligations and an attack on the confidence of the trading community throughout the world. Recent governments of whatever Party had, in his view, laid too much emphasis on cheap money and too little on skills. Competition was held to be a good thing, but what competition? Between "man-sized" firms or between giants? Between giants of one country and the giants of another?

PATENTS

COMPLETE SPECIFICATIONS ACCEPTED

from the "Official Journal (Patents)," March 24
tabilisation of organic materials which are sensi-
tive to light and oxidation, J. R. Geigy, A.G.
991,205.

lycols and their manufacture, Shell Interna-
tionale Research Maatschappij, N.V. 991,232.
Herbicide compositions, Imperial Chemical In-
dustries, Ltd. 991,288.

aste-masked pharmaceutical preparations con-
taining glutarimide derivatives, CIBA, Ltd.
991,293.

(1-adamantyloxy)-propionic acid and salts
thereof, Rhone-Poulenc, S.A. 991,297.

Apparatus for testing a liquid, Heyl, Chemische
Fabrik, K.G., Geb. 991,298.

Preparation of chloro-substituted benzene deriva-
tives, Fuso Chemical Co., Ltd. 991,299.

Caffeine acetyl tryptophanate and its process of
preparation, A.E.C.-Soc. de Chimie Organique
et Biologique, 991,306.

tabilisation of light and oxidation sensitive
organic materials, J. R. Geigy, A.G. 991,320.
bottle handling apparatus, Geo. J. Meyer Manu-
facturing Co. 991,321.

bottle loading apparatus, Geo. J. Meyer Manu-
facturing Co. 991,322.

bottle unloading apparatus, Geo. J. Meyer Manu-
facturing Co. 991,323.

Pharmaceutical compositions containing 3-ethyl-
sallyclic acid, Beecham Research Laboratories,
Ltd., and Monsanto Chemicals, Ltd. 991,376.

Ascorbic acid esters and a process for the manu-
facture thereof, F. Hoffmann-La Roche & Co.,
A.G. 991,390.

Process for preparing the crystalline warfarin
sodium-isopropyl alcohol complex, Wisconsin
Alumni Research Foundation. 991,395.

Essential oils, United Kingdom Atomic Energy
Authority and P. T. Petley. 991,411.

Chemical compositions, Pavele, Ltd. 991,412.

Pharmaceutical composition for removal of corni-
fied epithelium, Scholl Mfg. Co., Ltd. 991,432.

Cut-off device, Procter & Gamble, Ltd. 991,464.

Sealing soluble film packets, Procter & Gamble,
Ltd. 991,465.

Controlled volumetric filling of a granular prod-
uct into a continuously moving pocket,
Procter & Gamble, Ltd. 991,466.

British patent specifications relating to the above
will be obtainable (price 4s. 6d. each) from the
Patent Office, 23 Southampton Buildings, Chan-
cery Lane, London, W.C.2, from May 5.

from the "Official Journal (Patents)," March 31
Derivatives of benzoxazole and benzothiazole,
Merck & Co., Inc. 991,471.

Steroid compounds, processes for their production
and their conversion into therapeutical y-valu-
able substances, Roussel-Uclaf. 991,473.

Steroid compounds and their preparation,
Roussel-Uclaf. 991,474.

Steroid compounds and processes for their
production, Roussel-Uclaf. 991,475.

Methylated steroid compounds and their forma-
tion, Roussel-Uclaf. 991,476.

Phenyl-indolyl-aminoalkanoils, Koninklijke Phar-
macetische Fabriek voorheen Brocades
Stheeman & Pharmacia, N.V. 991,485.

Process for obtaining ophthalmic extracts,
Laboratoires Albert Rolland. 991,491.

Lined dispensing package for fluent substances,
Ivers-Lee Co. 991,495.

Androstane derivatives, G. D. Searle & Co.
991,497.

Process and apparatus for the purification of
glucose syrup and dextrose juice, Westfalia
Separator, A.G. 991,500.

Aminoalkylpiperidinoalkyl - γ - naphthylamines,
Parke, Davis & Co. 991,509.

Production of L-glutamic acid, Commercial Sol-
vents Corporation. 991,510.

Process for the production of polychloro-pyri-
dines, Dow Chemical Co. 991,526.

Process for the preparation of 2:9-dimethyl-
quinacridine-7:14-dione, CIBA, Ltd. 991,527.

Plant growth influencing compositions containing
chlorobenzoic acid derivatives, Farbenfabriken
Bayer, A.G. 991,537.

British patent specifications relating to the above
will be obtainable (price 4s. 6d. each) from the
Patent Office, 23 Southampton Buildings, Chan-
cery Lane, London, W.C.2, from May 12.

PRINT AND PUBLICITY

PRESS ADVERTISING

PRODUCTS that are being advertised in *Woman's Own* during May, and the extent of the advertis-
ing, are listed elsewhere in this issue.

ALFONAL, LTD., 66 Fenchurch Street, London,
E.C.3: Alfonal health and dietary foods. In
national Press.

ALFRED FRANKS & BARTLETT CO., LTD., 276
Vauxhall Bridge Road, London, S.W.1: Bortex
flip-clip sunglasses. In *Daily Express*, *Daily Mirror*, *Sunday Express*, *Sunday Mirror*, *The People and News of the World*.

BRITANOL, LTD., Swinton Hall Road, Swinton,
Manchester: Simbix. In *Radio Times*, *T.V. Times*, *T.V. World*, *Woman*, *Woman's Own*, *Woman's Realm*, *Woman's Mirror*, *Woman and Home*, *Everywoman*, *Vanity Fair*, *Modern Woman*, *She*, *Flair*, *Honey*, *Nova* and *Family Circle*.

BRITISH CHEMOTHERUTIC PRODUCTS, LTD., Kem-
theutic House, Grant Street, Bradford, 3:
Honeyjel. In *Daily Express*, *Daily Mail*, *Daily Mirror* and *Glasgow Daily Record*. Bisks and
Minibisks. In national daily and Sunday news-
papers and all major women's weekly and
monthly magazines. Until August.

BURROUGHS WELLCOME & CO., 183 Euston Road,
London, N.W.1: Saxin. In national daily
and seven big-circulation provincial news-
papers, women's magazines and ITV pro-
gramme magazines.

CLAY & ABRAHAM (MNEG.), LTD., 40 Hanover
Street, Liverpool, 1: Susies perfect cleaner. In

The Lady (every two weeks April 29 to Octo-
ber 21 and in January and February 1966),
Homes and Gardens (July, August, October),
Woman and Home (July, August, September,
October), *Home and Country* (June, July,
August), *Sunday Times* (four weeks commencing
April 25).

CYANAMID OF GREAT BRITAIN, LTD., Breck De-
partment, Bush House, Aldwych, London,
W.C.2: Breck hair set mist. In mass circula-
tion magazines.

FARLEY'S INFANT FOOD, LTD., Torr Lane, Ply-
mouth, Devon: Farley's rusks. In *Woman*,
Woman's Own and *Woman's Realm*.

F. W. HAMPSHIRE & CO., LTD., Sunnysdale,
Derby: Supersoft hair spray. In *Woman*,
Woman's Own, *Woman's Realm*, *She* and
ABC Film Review.

HELENE CURTIS, LTD., Bessemer Road, Welwyn
Garden City, Herts: Spray Net. In *Woman*
and other leading magazines. Until Christmas.

MAWS PHARMACY SUPPLIES, LTD., Aldersgate
House, Barnet, Herts: Maws baby products.
In *Mother*, *Baby World*, *Mother and Baby*,
Parents, *Nursery World*, *Family Doctor*, *Nursing Mirror*, *Nursing Times*, *Mother and Child*,
Health Visitor, *District Nursing* and in leading
baby annuals.

SLEMAID PRODUCTS, LTD., 53 Park Street, Bristol,
and 36 London Street, Southport: Slimso
chocolates. In *Woman*, *Woman's Own*,
Woman's Realm, *Everywoman*, *Vanity Fair*,
Modern Woman, *Housewife*, *Flair* and *She*.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the
Editor not later than first post on Wednesday of the week of insertion.

Monday, May 3

STOCKPORT BRANCH, PHARMACEUTICAL SOCIETY,
Room 21, Belgrade hotel, Dialstone Lanc.
Stockport, at 8 p.m. Annual meeting.

Tuesday, May 4

BOURNEMOUTH BRANCH, PHARMACEUTICAL SOCIETY,
Post-graduate medical centre, Boscombe,
Bournemouth, at 7.30 p.m. Annual meeting.

COVENTRY AND WARWICKSHIRE BRANCH, PHARMA-
CEUTICAL SOCIETY, Hare and Squirrel hotel,
Coventry, at 8 p.m. Dr. G. S. Cox on
"Pharmacy in New Zealand."

LIVERPOOL CHEMISTS' ASSOCIATION, Exchange
hotel, Liverpool, at 8 p.m. Talk on fortified
wines, particularly sherry, and wine tasting.

PHARMACEUTICAL GROUP, ROYAL SOCIETY OF
HEALTH, Leofric hotel, Coventry, at 7.30 p.m.
Mr. G. Eyles (director of testing, Institute of
Advanced Motorists) on "Driving and Road
Safety."

WORCESTER CITY AND COUNTY BRANCH, PHARMA-
CEUTICAL SOCIETY, Star hotel, Worcester, at
8 p.m. Annual meeting.

Wednesday, May 5

EXETER BRANCH, PHARMACEUTICAL SOCIETY, Im-
perial hotel, Barnstaple, at 8 p.m. Mr. Turner
(Kodak, Ltd.) on "Selling Photography."

READING BRANCH PHARMACEUTICAL SOCIETY,
Visit to Lantigen (England), Ltd., Pinewood,
Bagshot, Surrey, at 3 p.m. Intending visitors
should contact Mr. S. A. Wheatley, 8 Kenil-
worth Avenue, Southcote, Reading, Berks.

SHEFFIELD BRANCH, PHARMACEUTICAL SOCIETY,
Kenwood hall, Sheffield, at 8.30 p.m. Joint
ball with the local medical, dental and optical
associations.

Thursday, May 6

BOURNEMOUTH BRANCH, PHARMACEUTICAL SOCIETY,
Post-graduate medical centre, Palmerston Road,
Boscombe. Exhibition of anaesthetic drugs and
equipment open during the afternoon and
evening. Until May 7.

MICROBIOLOGY GROUP, SOCIETY OF CHEMICAL
INDUSTRY, 14 Belgrave Square, London, S.W.1,
at 6 p.m. Annual meeting. Also Mr. J. J. H.
Hastings (chairman) on "Problems in Antibiotic
Production."

SOMERSET BRANCHES, NATIONAL PHARMACEUTICAL
UNION and PHARMACEUTICAL SOCIETY, Grand
Atlantic hotel, Weston-super-Mare, at 3.30
p.m. and 6.30 p.m. respectively. Annual meet-

ings. At 7.30 p.m. combined meeting. Mr.
Keith Jenkins (a member of Council) on
"Retail Problems in Town and Country."

UNIVERSITY OF LONDON, SCHOOL OF PHARMACY,
Brunswick Square, London, W.C.1, at 5.30
p.m. Professor F. Sandberg (professor of phar-
macognosy and associate professor of pharma-
cology, Royal Pharmaceutical Institute, Stock-
holm, Sweden), on "The Effect of Various
Drugs in the Human Uterus."

Friday, May 7

MERSEYSIDE BRANCH, NATIONAL ASSOCIATION OF
WOMEN PHARMACISTS, Stork hotel, Queen's
Square, Liverpool, at 7.30 p.m. Annual meet-
ing.

UNIVERSITY OF LONDON, School of Pharmacy,
Brunswick Square, London, W.C.1, at 5.30
p.m. Professor F. Sandberg (professor of
pharmacognosy and associate professor of
pharmacology, Royal Pharmaceutical Institute,
Stockholm, Sweden) on "Arrow Poisons—
Their Origin, Chemistry and Action."

Sunday, May 9

ROMFORD BRANCH, PHARMACEUTICAL SOCIETY, Car
rally starting from Chillerditch Common at
10.30 a.m. (Entry fee is 5s. per car, 1 in.
Ordnance Survey maps No. 161 and 162 are
required.)

Advance Information

GUILD OF PUBLIC PHARMACISTS, Conference
hall, Olympia, London, W.14. June 3. Open
meeting at the Hospital Equipment and Medical
Services Exhibition. Speaker: Mr. J. W. Had-
graft (group chief pharmacist, Royal Free Hos-
pital, London) on "Quality Control and the
Hospital Pharmacist."

INTERNATIONAL GIFTS FAIR, Winter Gardens,
Blackpool, January 31 to February 4, 1966.

LABORATORY APPARATUS AND MATERIALS EX-
HIBITION (LABEX INTERNATIONAL), Earls Court,
London, S.W.5. March 13-17, 1967.

Courses and Conferences

INDUSTRIAL WELFARE SOCIETY and NUFFIELD
DEPARTMENT OF OCCUPATIONAL HEALTH, UNIVER-
SITY OF MANCHESTER, Midland hotel, Manchester.
Conference on "Occupational Health." May 12.
Fee: Members, £6 6s., non-members, £7 7s.
Inquiries to administrative officer, I.W.S., 4th
Bryanston Square, London, W.1.

Prescribers Press

The side-effects encountered were often difficult to deal with. There was no doubt, however, that the use of a potent corticosteroid was a valuable asset in the treatment of these patients. The use of a potent corticosteroid was a valuable asset in the treatment of these patients. The use of a potent corticosteroid was a valuable asset in the treatment of these patients.

What doctors are reading about developments in drugs and treatments

THE efficacy of the single booster dose of attenuated poliomyelitis vaccine given to children entering school has been studied by workers in London. Forty-six children aged 4-5 years were given one dose each of trivalent vaccine prepared from Sabin's living attenuated strains of poliomyelitis virus, having previously had two primary doses each of Salk vaccine at 7-12 months and a booster dose 8-12 months later. Antibody response was found to be produced only if the vaccine viruses were established in the gut for at least seven days, thirty-nine of the children having been adequately immunised against all three virus types. The authors consider it unrealistic to expect a single dose of trivalent Sabin vaccine to boost the immunity to all three types in children immunised three or four years earlier. They suggest that a second dose of trivalent vaccine 4-6 weeks after the first should make good the deficiencies. No difference could be detected between a liquid and a capsule presentation of the vaccine. (*Lancet*, April 24, 879.)

AN alternative method of reinforcing poliomyelitis immunity at school entry has been investigated by workers in Northern Ireland, who report on a trial of a vaccine combining in a single dose potent inactivated poliomyelitis antigens with diphtheria and tetanus toxoids. Fifty-seven children aged five and

six years were included in the trial. Serological response from the vaccine was found satisfactory provided that the children had received primary immunisation against the three diseases. (*Lancet*, April 24, p. 877.)

CORTICOSTEROID treatment has been found to offer no benefit in acute meningoencephalitis. In a retrospective study of 346 cases, workers in Norway found a higher mortality rate in treated than in untreated groups, even when those patients who were comatose during the acute stage were considered separately. Neurological sequelae were also more frequent among corticosteroid-treated patients. (*B.M.J.*, April 24, p. 1904.)

CONTEMPORARY THEMES

Subjects of contributions in current medical and technical periodicals.

MARBORAN (METHISAZONE). Cowpox treated with. *Brit. med. J.*, April 17.

BLOOD UREA. A comparison of two methods used for the determination of, in the dog. *Vet. Rec.*, April 17.

THE MOISTURE OF HUMAN SKIN as affected by water transfer. *J. Soc. cos. Chem.*, March 4.

THE SAFETY OF COSMETICS. Some statistical aspects of. *J. Soc. cos. Chem.*, March 4.

A DIPHTHERIA - TETANUS - POLIOMYELITIS VACCINE. *Lancet*, April 24.

TRIVALENT ORAL POLIOVACCINE. Response to one

dose of, in children previously immunised with Salk vaccine. *Lancet*, April 24.

CORTICOSTEROID TREATMENT for acute meningoencephalitis: a retrospective study of 346 cases. *Brit. med. J.*, April 24.

MORPHINE AND CODEINE in rats. Interaction of the analgesic effects of. *Nature*, February 20.

NEW PROTEIN DERIVATIVES for shampoos and hair sprays. *Soap and chem. Specialties*, March.

PRESERVATIVES FOR SPECIALTIES. *Soap and chem. Specialties*, March.

FORMULATION OF PARENTERALS. *Drug and cosmetic Ind.*, March.

A NEW TERPOLYMER for hair sprays. *Drug and cosmetic Ind.*, March.

RATS, MICE AND POISONS. *New Scientist*, April 22.

CORONARY DISEASE. The origins of. *Science*, May.

WHITE MUSTARD SEEDS. A case of suspected poisoning of dairy cows by. *Vet. Rec.*, April 24.

n-METHONIUM COMPOUNDS. Correlation of structure and blockage activity for the. *Nature*, April 24.

COMPOUNDS ACTIVE AGAINST CESTODES. A series of. *Nature*, April 24.

WILLS

MR. J. S. ANDERSON, M.P.S., Dalegarth, Nedderton, Bedlington, Northumberland, left £13,799 (£11,703 net).

MR. T. COOK, M.P.S., 118 West Parade, Lincoln, left £44,227 (£44,129 net).

MR. F. W. CRAWSHAW, 50 Hoodcote Gardens, Winchmore Hill, London, N.21, who qualified as a chemist and druggist in 1915, left £16,831 (£16,753 net).

MR. H. A. ELLIOTT, 6 Carmarthen Avenue, Cosham, Portsmouth, Hants, who qualified as a chemist and druggist in 1906, left £12,618 (£12,550 net).

MR. H. J. HART, M.P.S., 5 Raglan Road, Tycoch, Swansea, Glam, left £3,809 (£3,007 net).

MR. R. W. HOLLOWAY, M.P.S., Magdalen House, Eye, Suffolk, left £4,247 (£2,982 net).

MR. G. E. MADDISON, M.P.S., 4 Front Street, Pelton, Chester-le-Street, co. Durham, left £16,052 (£13,476 net).

MR. F. R. PARKINSON, M.P.S., 39 High Street, Carisbrooke, Isle of Wight, left £3,085 (£2,206 net).

MR. A. I. WILLIAMS, M.P.S., Pandy, Lllys Meirion, Caernarvonshire, left £26,095 (£25,891 net).

COMMERCIAL TELEVISION

The information given in the table is of number of appearances and total screen time in seconds. Thus 7/105 means that the advertiser's announcement will, during the week covered, be screened seven times and for a total of 105 seconds.

Period May 9-15	London	Midland	North	Scotland	Wales & West	South	North-east	Anglia	Ulster	Westward	Border	Grampian	Eireann	Channel Is.
PRODUCT														
Alka-Seltzer ...	5/150	2/80	3/90	3/120	4/120	3/90	4/120	5/150	5/150	3/90	5/150	2/60	2/60	4/120
Anadin ...	2/60	2/14	2/60	2/70	3/44	2/60	2/60	2/60	1/30	1/30	2/60	4/51	—	—
Anne French cleansing milk	2/60	1/30	1/30	—	—	1/30	—	—	1/30	—	—	1/30	—	—
Askit powders ...	—	—	—	12/84	—	—	—	—	—	—	3/21	4/28	—	—
Beecham's powders ...	3/29	3/29	3/29	3/29	—	3/29	—	3/29	3/29	—	2/30	2/30	—	4/60
Bisodol ...	5/29	—	—	—	—	5/31	—	5/35	—	—	—	—	—	—
Carnation corn caps ...	—	—	3/21	—	—	—	—	—	—	—	—	—	—	—
Cuticura ...	2/14	2/14	2/14	—	2/14	2/14	—	—	2/14	—	—	—	—	—
Detrosa ...	1/30	1/30	1/30	2/60	1/30	2/60	2/60	3/90	2/60	2/60	2/60	2/60	—	—
Dentu-Creme ...	2/60	1/30	1/30	1/30	2/60	1/30	1/30	2/60	1/30	1/30	2/60	1/30	—	2/60
Dettol ...	—	3/21	3/21	—	3/21	1/7	—	—	—	3/21	—	—	—	—
Farlene ...	—	—	5/35	—	—	—	—	—	—	—	—	—	—	—
Germolene ...	2/14	2/14	2/14	—	2/14	2/14	—	2/14	2/14	2/14	—	2/14	—	—
Go deodorant ...	4/105	4/105	4/105	4/90	4/105	4/105	4/105	4/105	—	3/90	2/60	2/60	—	—
Immac ...	—	—	2/60	1/30	—	—	1/30	—	—	—	—	—	—	—
Imperial Leather toilet soap	4/120	3/90	3/90	3/90	3/90	3/90	3/90	3/90	3/90	3/90	3/90	3/90	—	—
Milk of Magnesia ...	2/60	2/60	2/60	1/30	2/60	2/60	2/60	3/90	3/90	2/60	2/60	3/90	—	2/60
Moorland indigestion tablets	4/28	—	2/14	—	2/14	3/21	—	—	3/21	4/28	—	—	—	—
Mum rollette ...	1/15	1/15	1/15	1/15	—	1/15	1/15	1/15	2/30	2/45	—	—	—	—
Phyllosan ...	3/21	3/21	3/21	—	—	—	—	—	—	—	—	—	—	—
Rimmel Beauty-on-a-budget	2/60	2/60	2/60	3/90	2/60	3/90	3/90	3/90	2/60	2/60	3/90	3/90	—	3/90
Rinsead pastilles ...	2/30	2/30	1/15	—	3/45	1/15	—	—	2/30	1/15	—	1/15	—	—
SR tooth-paste ...	3/90	3/90	2/60	6/180	3/90	2/60	3/90	3/90	2/60	2/60	4/120	2/60	—	3/90
Setlers ...	1/15	—	2/30	—	—	1/15	1/15	—	—	1/15	—	—	—	—
Sparkling Spring ...	—	—	—	—	—	2/60	—	—	—	—	—	—	—	—
Tame creme rinse ...	—	3/90	3/90	—	2/60	3/90	—	—	—	—	—	—	—	—
Wright's coal tar soap ...	1/15	—	—	—	—	1/15	1/15	1/15	—	1/15	—	—	—	—

AMENDING C & D QUARTERLY PRICE LIST FOR MARCH 1965

[illegible]

* WHOOPING COUGH

trade mark



BURROUGHS WELLCOME & CO. (*The Wellcome Foundation Ltd.*) **LONDON**

Boblets (646 EI)	coloured wool balls	4	0	—	1	9	millet sprays	27	0	—	1	0	D Conprin (292 C) sachets						
Bond Street (1355 Yardley)	perfume	2790	92	0	23	0	13	5	parrot food	(3 doz)	18	0	Contempora (1052 Revlon)	regular or dry skin	60	6	15		
	1/2oz	2792	206	0	51	6	30	0	Tydisan	small, med., large	12	0	D Cooltan (682 KCL) existing entries						
	1oz	2793	343	0	85	3	50	0	Capricci (Nina Ricci) (1402 Buser)	perfume	1/2oz	—	Cooltan (682 KCL)	sun bronzing oil	20	8	5		
	metered spray	2771	110	0	27	6	16	0		1/2oz	—	46	0	suntan cream	No. 1	17	2		
	perfumed Cologne	2784	84	0	21	0	12	3		1/2oz	—	57	6		No. 2	27	4		
		2785	151	0	37	9	22	0		1/2oz	—	84	0		No. 3	34	4		
	crystallised	2770	55	0	13	9	8	0		1oz	—	132	6	jar	20	8	5		
	spray mist	2747	108	0	27	0	15	9		2oz	—	189	0	lotion	34	4	8		
	de luxe	2747	124	0	31	0	18	0			—	252	0	oil aerosol	51	6	12		
	talcum	2707	48	0	12	0	7	0		de luxe	refill	—	65	0	deodorant	20	8	5	
Breeze (756 Lever)	soap toilet	48	7	11	10	11 1/2				refill	—	98	0	D Coppatan (682 KCL) existing entries					
	bath	39	1	9	6	1	6 1/2			toilet water	2oz	—	36	0	Coppatan (682 KCL)	Sea and Ski suntan			
	new toilet	29	7	7	3	1	2			4oz	—	58	0	cream	19	0	4		
		(3 doz)	(3 doz)							8oz	—	94	0	foam aerosol	24	0	6		
Bristow's (105 BTD)	shampoo cream tube	33	6	8	4 1/2	4	6			1/2 litre	—	157	6	hair lacquer refill	11	3	2		
Brocillin (1393 BRL)	capsules/tablets T5	20	12	0ea	—	18	0			Helice for men	2oz	—	36	0	hair styling spray	11	3	2	
	125mgm	100	49	4ea	—	74	0			Cardiacap (291 Consolidated)	capsules	30	7	6ea	refill	11	3	2	
	250mgm	500	232	0ea	—	348	0			Cardiacap-A (291 Consolidated)	capsules	30	9	0ea	Correna (1544 Corre) sunglasses				
		100	96	8ea	—	145	0			Carnate (365 Demuth) (distributors 1054 R&A)	nail polish	30	10	7	9	4	6		
		500	463	4ea	—	695	0				conditioner	30	10	7	9	4	6		
	syrup	60mils	5	6ea	—	8	3			Carnation (339 CG)	bunion rings	14	0	—	1	9			
Bronchisan (1320 W5P)	children's cough	40oz	36	0	—	5	8				chiroprody felt	12	0	—	1	6			
	syrup†	2 1/2oz	39	0	—	5	8				corn rings	12	0	—	1	6			
Bronnley (194 Bronnley)	lemon soap guest	601/VJ	—	—	17	6					foot powder	20	0	5	0	2	11		
	orange soap punnet	600/T3	—	—	6	0				Casilan (518 Glaxo)	8oz	58	6	—	6	6			
			—	—	6	0					40oz	21	9ea	—	29	0			
Brovolin (859 Moore)	cough syrup†	40oz	36	0ea	—	—				Cellaforte (243 CML)	tablets	120	20	0ea	—	30	0		
Broxil (1393 BRL)	syrup T5	60mils	11	0ea	—	16	6				(tax pd)	240	36	8ea	—	55	0		
	capsules/tablets T5	20	12	0ea	—	18	0				(tax pd)	240	36	8ea	—	55	0		
	125mgm	100	49	4ea	—	74	0			Cellostimulin (243 CML)	skin cream 45gm	20	0ea	—	30	0			
	250mgm	500	232	0ea	—	348	0				(tax pd)	20	0ea	—	30	0			
		100	96	8ea	—	145	0			Cetrimax (1232 T&R)	antiseptic cream	18	0	—	2	3			
		500	463	4ea	—	694	0				tube	18	0	—	2	3			
Brunitex (113 5&B)	shampoo liquid or	5	5	1	4	9				Chantilly (Houbigant) (1 Abbey)	parfum de toilette	135-25	—	—	35	0			
	medicated sachet	17	0	4	3	2	3				atomiser	105-84	—	—	27	6			
	bottle	—	—	—	—	—	—				perfume	105-45	—	—	57	9			
D Bu-To (128 Biometica) existing packs											105-46	—	—	92	0				
Bu-To (128 Biometica)	hair remover small	20	0	5	0	2	11				purse	105-92	—	—	40	0			
	large	30	8	7	8	4	6				diffuseur	105-93	—	—	27	6			
Buzz off (250 Chelspa)	cream	20	3	5	1	3	0				refill	105-93	—	—	27	6			
	liquid	13	9	3	5	2	3				talcum	149-18	—	—	7	0			
Cabochoard (Gres) (1402 Buser)	bath oil	—	—	—	—	57	6			Chevalier (1464 D'Orsay)	deodorant stick 250	5	10ea	1	6ea	11	0		
	perfume	1/2oz	—	—	—	39	6				eau de Cologne	2oz	1821	10	0ea	2	5ea	18	6
		1/2oz	—	—	—	48	0				4oz	1822	16	0ea	3	11ea	30	0	
		1/2oz	—	—	—	72	0				8oz	1823	25	6ea	6	3ea	47	6	
		1oz	—	—	—	115	0				16oz	1824	42	6ea	10	4ea	79	6	
	atomiser	A57	—	—	—	65	0				atomiser	5 1/2oz	1850A	27	0ea	6	7ea	50	0
	refill	RA57	—	—	—	35	0				soap,	hand (3)	1829A	9	0ea	2	2ea	16	3
	atomiser	AT1090	—	—	—	125	0				bath (3)	1829B	15	6ea	3	10ea	27	6	
	refill	RAT1090	—	—	—	65	0				sets	1831C	27	3ea	6	8ea	51	0	
	toilet water	2oz	—	—	—	39	6					1830C	21	3ea	5	3ea	39	6	
	4oz	—	—	—	—	65	0				Chloro-yeast (1198 5IC)	tablets	18	6	4	6	2	6	
	8oz	—	—	—	—	97	0						29	6	7	4	4	0	
	16oz	—	—	—	—	178	6				Citanest (68 AH) †s4B	vials 4% 25 mils	1	4	6ea	—	6	9	
Calmitol (621 Horlicks) †s4B	ointment tube 40gm	32	0	8	0	4	8				Codis (1037 Reckitt) †	200	120	0	29	3	15	9	
Calsalettes (1244 TLOC)	granules	40	12	9	3	2 1/2	1	9			Coeur Joie (Nina Ricci) (1402 Buser)	foam bath essence	1/2oz	—	—	37	6		
	200	50	7 1/2	12	8	6	9				perfume	1/2oz	—	—	36	6			
	tablets	20	12	9	3	2 1/2	1	9				1/2oz	—	—	47	6			
		100	50	7 1/2	12	8	6	9				1oz	—	—	63	0			
C.A.M. (1091 Rybar)	4oz	30	0	7	6	4	4 1/2					2oz	—	—	100	0			
D Camco (221 Camden) tablets												de luxe	—	—	172	0			
Camcolit (221 Camden)	tablets	100	66	0	16	6	8	8 1/2				atomiser	1/2oz	—	126	0			
		1000	36	6ea	9	1 1/2ea	57	9 1/2				refill	—	—	63	0			
D Caperns (1175 5PL) existing entries												atomiser	2oz	—	95	0			
Caperns (1175 5PL)	Avisand	9	0	—	1	0						refill	—	—	63	0			
	(1/2 doz)	7	6	—	2	0						toilet water	2oz	—	25	6			
	bird sand	7	6	—	10							4oz	—	—	48	6			
	budgie grit	7	6	—	10							8oz	—	—	73	6			
	budgie seed	29	7	—	1	1						16oz	—	—	115	6			
	(Golden Life)	(3 doz)	18	3	—	2	0												
	canary mixture	29	3	—	1	1													
		(3 doz)	18	0	—	2	0												
	finch and mule mix.	29	3	—	1	1													
		(3 doz)	15	9	—	7													
	fish food	(3 doz)	33	6	8	4													

brilliantine	5301	11	10	2	9½	1	9	D	injection T5	6	9ea	—	9	0	4oz	602	19	0ea	4	9ea	35	6				
brilliantine	5489	11	10	2	9½	1	9	D	lotion with neomycin 1½% 20 mils	—	—	—	—	—	8oz	603	30	9ea	7	5ea	57	6				
Br Lady	4717	13	7	3	4½	2	0		Effico (972 Pharmax)	—	—	—	—	—	16oz	604	48	0ea	11	8ea	89	6				
g stick	2067	16	3	3	10½	2	3		Elastico (1155 58N)	1004	76	0	—	8	10	perfume	95	11	3ea	2	9ea	21	0			
ll	2202	9	11	2	4½	1	5		bandage	—	—	—	—	—	—	1oz	90	17	0ea	4	2ea	35	6			
l (993 PD&C) (distributors 885 N&P)	3oz 2050/1	10	5	2	7½	1	4		Elizabeth James (1537 Dirkham)	—	—	—	—	—	—	1oz	530G	20	0ea	4	10ea	37	6			
ls (1152 5K)	11	0	—	2	9	1	6		Baker Boy bath caps	7205	63	9	6	4½	8	6	1oz	530H	30	0ea	7	3ea	56	0		
(Rigaud (47 Anestant))	0271	13	6ea	3	4½ea	27	0		7211	86	0	8	7	11	6	2oz	530A	90	0ea	21	11ea	168	0			
es perfume	0221	33	0ea	8	3ea	66	0		7215	71	0	7	1	9	6	4oz	530B	153	0ea	37	4ea	285	0			
perfume	0231	20	0ea	5	0ea	40	0		Bouffant styled	7168	44	0	4	5	5	11	presentation packs	022G	26	9ea	6	6ea	50	0		
ay	0251	71	0ea	17	9ea	142	0		7171	51	6	5	1½	6	11	1oz	022H	41	6ea	10	1ea	77	6			
refill	0261	60	0ea	15	0ea	120	0		7175	82	0	8	2	10	11	1oz	022J	73	6ea	17	11ea	137	6			
rin (1530 Fisons)	250	—	—	—	—	—	—		7176	82	0	8	2	10	11	2oz	022A	105	0ea	25	7ea	195	0			
ts (Rigaud (47 Anestant))	0272	13	6ea	3	4½ea	27	0		7198	63	9	6	4½	8	6	Farex (518 Glaxo)	6oz	14	5	—	—	1	6			
es perfume	0222	33	0ea	8	3ea	66	0		7210	71	0	7	1	9	6	rice cereal	4oz	40	0	—	—	—	—			
perfume	0232	20	0ea	5	0ea	40	0		close fitting	7193	36	6	3	6½	4	11	Feravol (228 Carlton)	8oz	72	0	—	—	—	—		
ay	0252	71	0ea	17	9ea	142	0		shampoo capes	7178	86	0	8	7	11	6	syrup	80oz	52	6ea	—	—	—	—		
refill	0262	60	0ea	15	0ea	120	0		7179	86	0	8	7	11	6	Feravol-F (228 Carlton)	4oz	51	0	—	—	—	—			
(347 Dalmas)	47	7	11	11	6	11			7194	66	6	6	8	8	11	6	syrup	80oz	52	6ea	—	—	—	—		
rheumatic	100	22	0ea	5	6ea	38	6		7200	86	0	8	7	11	6	Feravol-G (228 Carlton)	4oz	51	0	—	—	—	—			
atment	358 D&S	—	—	—	—	—	—		Emge (49 AF)	40	61	0	15	3	8	1	tablets	250	14	6ea	—	—	—	—		
ts 5mgm	4oz	20	0	—	—	—	—		tablets	40	61	0	15	3	8	1	tablets	250	14	6ea	—	—	—	—		
358 D&S	11b	60	0	—	—	—	—		Emplets (938 PD)	100	32	0	—	—	4	0	syrup	8oz	90	0	—	—	—	—		
tionier	24	0	6	10	3	6			ferrous sulphate	100	32	0	—	—	4	0	80oz	56	0ea	—	—	—	—			
t)	17 DCL	yeast tablets 50	—	—	—	—	—		gr 5	100	32	0	—	—	4	0	60	42	0	—	—	—	—			
(291 Consolidated)	00 unit vial 4	40	0ea	—	—	—	—		sodium chloride	100	52	0	—	—	6	6	250	13	6ea	—	—	—	—			
00 unit vial 4	0ea	—	—	—	—	—	—		gr 15½	100	52	0	—	—	6	6	1000	42	6ea	—	—	—	—			
a D.C. (291 Consolidated)	16	10	0ea	—	—	—	—		Endocil (917 Organon)	48	0	12	0	7	0	Ferrocap (291 Consolidated)	capsules	20	4	6ea	—	—	—			
rm (394 DF)	25gm	—	—	—	—	—	—		day-care	48	0	12	0	7	0	capsules	20	4	6ea	—	—	—	—			
ment	12	5	0ea	1	3ea	—	—		Energen (421 Energen)	31b	42	11	—	—	4	4	Fete (852 Molyneux)	1oz	2560	10	6ea	2	7ea	18	6	
ts (291 Consolidated)	200	60	0ea	15	0ea	—	—		flour	large	27	2½	—	—	2	9	eau de toilette	2oz	2561	17	4ea	4	3ea	30	0	
(121 Bibby)	5oz	21	6	—	—	—	2	3	rolls	17	4	—	—	—	1	9	1oz	2562	25	4ea	6	2ea	44	0		
oil	5oz	21	6	—	—	—	2	3	rye crispbread	17	4	—	—	—	1	9	3oz	2563	39	9ea	9	8ea	69	0		
Crema (1178 Stafford)	14	0	3	6	2	0			wheat crispbread	17	4	—	—	—	1	9	16oz	2564	75	8ea	18	5ea	132	0		
ure toothpaste	14	0	3	6	2	0			Englate (894 Nicholas)	8oz	76	0	—	—	9	6	Fields (462 Field)	shave stick	6	11	1	8	11	1		
(1441 Wallace)	50	—	—	—	—	—	—		syrup	50	89	0	—	—	11	2	toilet soap	9	3	2	2	1	3			
ts	2815	37	6	9	1½	4	9		tablets	500	57	8ea	—	—	86	6	Fille d'Eve (Nina Ricci) (1405 Buser)	foam bath essence	—	—	—	—	37	6		
(1070 Windsor)	2811	15	11	3	10½	2	3		Entair-A (179 BDH)	30	11	3ea	2	9½ea	19	8	perfume	1oz	—	—	—	—	36	6		
ated	2835	17	7	4	3½	2	6		capsules†	30	11	3ea	2	9½ea	19	8	1oz	—	—	—	—	—	47	6		
ampoo	2810	10	0	2	5	1	4		tablets	25	6	0ea	—	—	—	—	1oz	—	—	—	—	—	63	0		
Flower (1131 Shulton)	1746	68	6	16	8	10	6		Equivert (969 Pfizer)	100	26	6ea	—	—	39	9	1oz	—	—	—	—	—	100	0		
ime	1745	68	6	16	8	10	6		Etiquette Bleue (1464 D'Orsay)	1001	8	9ea	2	2ea	16	6	2oz	—	—	—	—	—	172	0		
(1037 Reckitt)	4oz	—	—	—	—	—	—		eau de Cologne	1002	14	6ea	3	7ea	27	0	de luxe	—	—	—	—	—	126	0		
cal	4oz	—	—	—	—	—	—		1003	22	6ea	5	6ea	42	10	toilet water	2oz	—	—	—	—	—	28	6		
septic cream tube	4oz	—	—	—	—	—	—		1004	43	0ea	10	6ea	80	0	4oz	—	—	—	—	—	45	6			
etric cream tube	4oz	—	—	—	—	—	—		1005	78	0ea	19	0ea	145	0	8oz	—	—	—	—	—	73	6			
se (583 HP)	4oz	—	—	—	—	—	—		atomiser	1050A	26	6ea	6	5ea	49	6	16oz	—	—	—	—	—	115	6		
ts	4oz	—	—	—	—	—	—		Euvalerol M (34 A&H)	—	—	—	—	—	—	Filon (1320 WSP)	tablets ts4B	100	23	4ea	—	—	35	0		
0mgm ts4B	100	18	11ea	—	—	—	28	4½	D Evereve (Rigaud (317 C5))	—	—	—	—	—	—	500	110	3ea	—	—	—	165	5			
500 82 3ea	—	—	—	—	—	—	123	4½	Eve Reve (Rigaud (47 Anestant))	—	—	—	—	—	—		Fiona (164 Brandt) eyelashes	—	—	—	—	—	—	—		
0mgm ts4B	100	41	6ea	—	—	—	62	3	bath salts & perfume 14	6ea	3	10ea	25	0		gossamer standard and trimmed	—	—	—	—	—	—	—	—		
500 195 4ea	—	—	—	—	—	—	293	0	perfume 1oz	3010	9	9ea	2	5ea	19	6	Flair (1355 Yardley)	bath oil	4866	93	0	23	3	13	7	
(328 CCC)	100mils	—	—	—	—	—	40	0	1oz	3011	19	9ea	4	11ea	39	6	Cologne	4884	84	0	21	0	12	3		
97 Bayer)	671 Jeyes)	38	6	—	—	—	4	3	1oz	3012	36	0ea	9	0ea	72	0	4885	151	0	37	9	22	0			
er aerosol	streptomycin sulphate (518 Glaxo)	20	3	—	—	—	2	3	1oz	3013	50	0ea	12	6ea	100	0	crystallised	4870	55	0	13	9	8	0		
n (518 Glaxo)	alised injection 3 mils	10	—	—	—	—	—	—	de luxe 1oz	3002	47	6ea	11	10ea	95	0	foam bath	4869	98	0	24	6	14	4		
B Nicholas)	379 Dixor)	24	0	6	0	3	6		1oz	3003	66	0ea	16	6ea	132	0	perfume	4890	92	0	23	0	13	5		
night cream	24	0	6	0	3	6			super de luxe	3007	156	0ea	39	0ea	312	0	1oz	4892	206	0	51	6	30	0		
el P.G. (1071 Robins)†	6oz	82	0	20	6	10	3		spray 1oz	3021	18	0ea	4	6ea	36	0	metered spray	4871	110	0	27	6	16	0		
ension	6oz	82	0	20	6	10	3		refill 1oz	3031	12	0ea	3	0ea	24	0	[spray mist	4847	108	0	27	0	15	9		
lus (1261 UCAL)	33	6	—	—	—	—	3	9	toilet water	2oz	3314	19	0ea	4	9ea	38	0	de luxe	4847L	124	0	31	0	18	0	
ol	33	6	—	—	—	—	3	9	2oz	3315	30	0ea	7	6ea	60	0	talcum	4807	48	0	12	0	7	0		
mine (1121 Searle)	36	7	2ea	—	—	—	10	9	4oz	3316	54	0ea	13	6ea	108	0	Flatterie (Houbigant (1 Abbey))	parfum de toilette	136.25	—	—	—	—	35	0	
ts 50mgm ts7	100	18	6ea	—	—	—	27	9	8oz	3318	260	0ea	65	0ea	520	0	atomiser	106.84	—	—	—	—	—	27	6	
y (721 LC)	500	88	10ea	—	—	—	133	3	32oz	3320	39	0ea	9	9ea	78	0	perfume	106.35	—	—	—	—	—	57	9	
soap toilet	1000	172	10ea	—	—	—	259	3	refill 3oz	3330	23	6ea	8	4½ea	47	0	106.36	—	—	—	—	—	—	92	0	
bath	6	0	1	6	9				Evidorm (97 Bayer)	tablets ts4A	50	8	3ea	—	12	4	106.37	—	—	—	—	—	—	140	0	
lotion	20	8	5	2	3	0			Eyemakers a la Carte (1052 Revlon)	Brow Beautiful	5116	117	6	29	4½	17	6	purse diffuser	106.92	—	—	—	—	—	40	0
(Bewitch, Spring Morning, Autumn Fern)	7	4	1	10	11	5½			brush-on mascara	94	0	23	6	14	0		refill	106.93	—	—	—	—	—	27	6	
toilet	11	8	2	11	1	5½			refills	52	0	13														

Freesia (1355 Yardley)					forte vial 10mils 72 0					2mils 8x50 133 4				
bath salt tablets					ampoules 2mils 6 105 0					with needle				
1826 34 0					D Hexa-Betalin (413 Lilly) 5mils					6x50 150 0				
crystallised Cologne					Hexital (922 Ortho) ts1s4A					5mils 8x25 100 0				
1870 50 0					tablets 500 29 4ea					with needle				
hair oil 1834 31 0					Hi and Dri (1052 Revlon)					8x25 133 4				
perfume 1890 75 0					roll-on deodorant 55 6					needles sterile single use				
spray mist 1847 10 0					13 10 1/2					100 18 8ea				
de luxe 1847L 115 0					Hi-Lift (422 EGC) (distributors 1318 KVM)					Julia (1412 Jackel) pine needle				
talcum 1808 33 0					tablets 150 37 9					bath oil 1 bath 43 9				
1808L 48 0					350 63 0					(4 1/2 doz) (4 1/2 doz)				
1807 33 0					Hilkinson (606 Hill)					9 bath 61 6				
Fucidin (747 Leo)					binoculars 8x30					30 bath 198 0				
ointment					8x40					foam bath 1 bath 33 9				
25gm 13 Oea					7x50					4 bath 48 0				
Gin Fizz (Lubin (1 Abbey))					10x50					15 bath 120 0				
eau de toilette					12x50					D Julia (1245 Toulson)				
599					16x50					Kamillosan (221 Camden)				
689					20x60					ointment 20gm 28 0				
690					Histanin (208 BW)					1lb 20 Oea				
atomiser					tablets 50 mgmt 17					Kanfotrex (171 BLL) T5				
perfume					100 16 Oea					ointment 5gm 5 10ea				
639					500 70 8ea					15gm 14 4ea				
649					Hi-White (1070 Windsor) soap					Kantrex (171 BLL) T5				
650					family pack 5050 180 0 gross					capsules 30 52 4ea				
651					Hobson's (611 JH&S)					100 172 Oea				
652					black beer minor 55 8					D Kaomlin (413 Lilly)				
616					1/2 bott 67 10					Kathleen Court (682 KCL)				
836					(4 doz) 7 9					facial youth cream				
Glen (1546 Sheranel) aerosols					bott 60 0					tube 27 4				
air freshener 8oz 25 0					Idole (Lubin (1 Abbey))					jar 48 0				
fly killer 8oz 25 0					eau de toilette 859					soap (3) 37 6				
Glo-ahead (1188 Steiner)					860					D Kathleen Court (682 KCL)				
hair conditioner 32 6					861					cleansing cream, night cream, rose pe				
8oz 32 8					862					skin tonic				
D Glyco Thymoline (261 Christy) 6oz					Immac (655 ICC)					Kentrexil (171 BLL) T5				
Gnome (520 Gnome)					hair removing cream					suspension 4oz 17 6ea				
projectors					sachet 10 10					16oz 65 Oea				
Classic					Imprudence (1350 Worth)					D Kisby (1530 Fisons) shampoo				
741					perfume 1oz					Kleinerts (706 Kleinerts)				
749					Inecto (1028 Rapidol)					one-way under-				
743					milk bleach 37 9					nappies (2) 32 0				
746					In Love (1376 Hartnell)					Kilk (563 Hampshire)				
745					bath dusting					air freshener 35 0				
744					powder HL7 91 0					fly killer 35 0				
756					bath cubes HL17 34 0					Killing (672 Johnson)				
Auto					HL33 42 6					conforming bandage				
Litmaster I					hand lotion HL1 48 0					2in 10 10				
II					HL5 137 0					3in 12 11				
III					HL9 44 6					4in 14 8				
IV					cream HL47 72 0					6in 20 0				
Go (994 P&M)					perfume HL6 106 0					Knights (756 Lever)				
after bath freshener					spray HL6 106 0					castile soap toilet				
7755 85 9					D In Love (1376 Hartnell) soap guest HL8V					52 10				
roll-on refill 7754 24 0					Intimate (1052 Revlon)					(6 doz) 12 11				
talcum powder					dusting powder 191 6					(10 4				
7756 37 8					eau de toilette 112 6					(3 doz) 10 4				
Golden Babe (1164 55L)					161 3					Kodak (711 Kodak)				
Bouncer baby pants					spray 141 0					Instamatic camera				
Gonadotrophon (930 P&B) ts4B					hand and body					200 82 10 1/2ea				
5000iu 5 40 8ea					lotion 57 0					Konica (1017 PO)				
Gossamer (164 Brandt)					perfume 1/2oz 17 4ea					cine camera				
eyelashes trimmed 60 0					1/2oz 26 0 1/2ea					EYE half-frame				
Goya (532 Goya)					100 9					Kwells (893 Nicholas)				
deodorant dry					Intoxication (1464 D'Orsay)					old type				
refill 18 11					parfum de toilette					K.Y. (672 Johnson)				
magic moisture 51 7					2oz 601 11 3ea					jelly standard 14 6				
Brushand Glow 122 87 9					4oz 602 19 0ea					Lady Manhattan (1548 HofM)				
lipshimmer 44 8					8oz 603 30 9ea					bath cubes 20 8				
D Goya (532 Goya)					16oz 604 48 0ea					Cologne 58 9				
Cedar Wood					perfume 1/2oz 95 11 3ea					perfume 55 4				
gel after-shave 135					1/2oz 90 17 0ea					presentation 100 0				
shave cream lather 139					1/2oz 530G 20 0ea					soap 16 8				
Golden Girl					1/2oz 530H 30 0ea					talcum 34 6				
lipstick luxury 103					1/2oz 530 49 6ea					D Lady Manhattan (462 Field)				
Grossmith's (544 Grossmith)					2oz 530A 90 0ea					L'Aiment (301 Coty)				
lily of the valley bath					4oz 530B 153 0ea					hair spray 2041 86 0				
crystals 809/909 44 6					presentation packs					L'Alr de Temps (Nina Ricci) (1402 Buser)				
Guerlain (548 Guerlain)					1/2oz 022G 26 9ea					dusting powder TB3				
crystal vision					1/2oz 022H 41 6ea					TB1				
Guerlain (548 Guerlain) Habit Rouge					1oz 022 73 6ea					TB2				
aftershave bottle					2oz 022A 105 0ea					sachet				
travel flask					camera					foam bath essence				
eau de Cologne bottle					e.r. case					perfume 1/2oz				
travel spray					Jackson's (662 EJ)					1/2oz				
hair lacquer					barley sugar					1oz				
shave cream lather					drops 4oz 11 6					2oz				
brushless					glucose mints 4oz 11 6					de luxe				
soap toilet					mixed fruit 4oz 11 6					atomiser				
bath					drops 4oz 11 6					refill				
Haemostop (291 Consolidated)					Devon fruits 4oz 11 6					atomiser				
injection 2mils 6 24 Oea					night cough 1oz 15 0					refill				
Haliborange (34 A&H)					lozenge bismuth 50 13 8					coffret				
tablets 25 30 0					dyspepsia 2oz 15 0					toilet water 2oz				
100 92 0					pastilles creds 2oz 15 0					4oz				
Harriet Hubbard Ayer (852 Molyneux)					Envoy 2oz 15 0					8oz				
base de poudre jaspée					tangerine 4oz 11 6					16oz				
Haze (1037 Reckitt)					lozenges					Lancaster (724 LDP) retail prices should be				
giant size 51 5 1/2					C.S.					type				
size B					peppermint 2oz 13 8					Lancome (726 Lancome)				
Hedges (590 Hedges)					sulphur 2oz 13 8					Effacil				
L.260 snuff 18 7					bismuth 1oz 7 0					Lancomatic mascara				
39 4					Jests (440 Ex-lax) antacid mints					refill				
74 2					Jeypine (671 Jeyes) 8oz 13 9					Lanolive (1198 SIC)				
Helinz (593 Heinz) strained foods					Johnson's (674 JEP)					shave cream				
apricots and apples can					syringes sterile single-use					brushless				
5oz 17 8					D					28 6				
(2 doz)										32 6				
Helena Rubinstein (596 HR)										7 11				
5cimitar long-lash										7 11				
refill										7 11				
Hepacort Plus (799 MP)										7 11				
suppositories 6 5 4										7 11				
D Hepacort Plus (799 MP) suppositories 8										7 11				
Hepanemin (1320 WSP)										7 11				

ly (1464 D'Orsay)	1oz	7	5	—	11	double duel	86x83 in	—	—	378	0
h de toilette	2oz	12	1	—	16	D Monotheamin (413 Lilly)	Pulvules 65mgm all sizes	—	—	—	—
601	4oz	21	0	—	27	Myanodin (179 BDH) ts48	tablets 0.5gm	50	6	4ee	9
602	8oz	37	3	—	42	tablets ts4A	500	51	6ea	—	—
603	16oz	69	0	—	78	Myelomide (894 Nicholas)	tablets ts4A	50	40	0	5
604	hospital quality	1oz	6	4	—	Myateclin (1176 Squibb)	tablets TS	500	534	10ee	802
650A	25	0ea	8	7ee	65	0	Mytelase (97 Bayer)	tablets 10mgm	100	20	0ee
650AR	38	0ea	6	9ee	52	0	Nellform (1524 Chembro)	liquid nell	100	0	24
95	11	3ea	2	9ee	21	0	liquid refill	36	3	8	8
90	17	0ee	4	2ea	32	6	liquid refill	36	3	8	8
530G	20	0ea	4	10ee	37	6	D Natrodole (1513 Rodale) existing entries	—	—	—	—
530H	30	0ee	7	3ee	56	0	Natrodole (1513 Rodale)	Bioflavonoid complex	capsules	50	7
530	49	6ea	12	1ea	92	6	capsules	125	15	0ea	10
530A	90	0ee	21	11ea	168	0	capsules	350	38	6ea	9
530B	153	0ea	37	4ee	285	0	capsules	500	14	8ee	22
50A	26	0ea	6	4ea	48	6	capsules	90	5	2ee	7
022G	26	9ee	6	6ee	50	0	capsules	200	3	6ea	5
022H	41	6ee	10	1ee	77	6	capsules	400	6	6ee	9
022	73	6ee	17	11ee	137	6	capsules	600	9	10ea	14
022A	105	0ea	25	7ee	195	0	capsules	80z	2	10ee	4
ycln (746 Lederle)	20gm	3	10ea	—	5	9	capsules	11b	5	4ee	8
gent TS 0.5%	20gm	3	10ea	—	5	9	capsules	100	4	6ea	6
r (749 Leichner)	27	6	6	11	4	0	capsules	250	8	8ea	13
opln (1320 W5P)	5x5mils	10	6ee	2	7ee	18	5	capsules	500	14	8ee
ions ts4A	25x5mils	35	0ee	8	9ee	61	3	capsules	90	5	2ee
5x5mils	12	3ea	3	2ee	21	6	5	capsules	200	11	2ee
25x10mils	30	0ee	12	6ee	87	6	5	capsules	400	21	0ea
ts4A	20	52	0	13	0	7	7	capsules	400	21	0ea
(187 85) tablets	20	52	0	13	0	7	7	capsules	400	21	0ea
sin (1341 Willows)	20	52	0	13	0	7	7	capsules	400	21	0ea
ptic gel	20	52	0	13	0	7	7	capsules	400	21	0ea
tridges 2%	20	52	0	13	0	7	7	capsules	400	21	0ea
y (756 Lever)	20	52	0	13	0	7	7	capsules	400	21	0ea
toilet	20	52	0	13	0	7	7	capsules	400	21	0ea
bach	20	52	0	13	0	7	7	capsules	400	21	0ea
family size	20	52	0	13	0	7	7	capsules	400	21	0ea
(761 Lilla-White)	20	52	0	13	0	7	7	capsules	400	21	0ea
r plus	20	52	0	13	0	7	7	capsules	400	21	0ea
ee (855 Mondert)	20	52	0	13	0	7	7	capsules	400	21	0ea
spray	20	52	0	13	0	7	7	capsules	400	21	0ea
ve	20	52	0	13	0	7	7	capsules	400	21	0ea
8 Stelner)	20	52	0	13	0	7	7	capsules	400	21	0ea
n (682 KCL)	20	52	0	13	0	7	7	capsules	400	21	0ea
loction	20	52	0	13	0	7	7	capsules	400	21	0ea
oods (773 LSL)	20	52	0	13	0	7	7	capsules	400	21	0ea
oods (451 FAJ)	20	52	0	13	0	7	7	capsules	400	21	0ea
en (262 CIBA)	20	52	0	13	0	7	7	capsules	400	21	0ea
m TS 15gm	112	0	—	—	14	0	—	capsules	400	21	0ea
on TS 15mils	112	0	—	—	14	0	—	capsules	400	21	0ea
ment TS 15gm	112	0	—	—	14	0	—	capsules	400	21	0ea
en M (262 CIBA)	112	0	—	—	14	9	—	capsules	400	21	0ea
m TS 15gm	118	0	—	—	14	9	—	capsules	400	21	0ea
mant TS 15gm	118	0	—	—	14	9	—	capsules	400	21	0ea
et (1052 Revlon)	72	6	18	11	10	9	—	capsules	400	21	0ea
oise compact	43	9	10	11	10	6	—	capsules	400	21	0ea
ta cone casa	43	9	10	11	10	6	—	capsules	400	21	0ea
ta case	43	9	10	11	10	6	—	capsules	400	21	0ea
raffil	33	6	8	4	5	0	—	capsules	400	21	0ea
r Care (172 8MCL)	46	0	11	6	6	9	—	capsules	400	21	0ea
colour lotion	46	0	11	6	6	9	—	capsules	400	21	0ea
S6 Lever)	48	7	11	10	11	1	1	capsules	400	21	0ea
et soap small	48	7	11	10	11	1	1	capsules	400	21	0ea
large	48	7	11	10	11	1	1	capsules	400	21	0ea
rhine (1336 WJ&C)	76	0	19	0	9	7	—	capsules	400	21	0ea
mulas	76	0	19	0	9	7	—	capsules	400	21	0ea
thys (785 Macarthy)	10	8	—	—	1	4	—	capsules	400	21	0ea
tric medicina	10	8	—	—	1	4	—	capsules	400	21	0ea
measure	10	8	—	—	1	4	—	capsules	400	21	0ea
urt (1113 5&8)	6	2	1	6	10	—	—	capsules	400	21	0ea
ules	16	8	4	2	2	3	—	capsules	400	21	0ea
my liiquid	16	8	4	2	2	3	—	capsules	400	21	0ea
an (372 De Witt)	16	8	4	2	2	3	—	capsules	400	21	0ea
d type	16	8	4	2	2	3	—	capsules	400	21	0ea
owa (1085 RB)	16	8	4	2	2	3	—	capsules	400	21	0ea
lar's earth	16	8	4	2	2	3	—	capsules	400	21	0ea
resm	16	8	4	2	2	3	—	capsules	400	21	0ea
lb	16	8	4	2	2	3	—	capsules	400	21	0ea
powder	16	8	4	2	2	3	—	capsules	400	21	0ea
(810 Maw)	16	8	4	2	2	3	—	capsules	400	21	0ea
dages B.P.C.	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 3yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8	4	2	2	3	—	capsules	400	21	0ea
in x 4yd	16	8									

[illegible]

[illegible]

toilet soap small	24 4	5 11	11 1/2		
large	39 1	9 6	1 6 1/2		
	(3 doz)	(3 doz)			
Sun-O-Life (29 Alfal)					
sunflower seed					
oil	1/2 pt 22 5	—	2 4		
	1 pt 38 5	—	4 0		
	1 gal 24 0ea	—	30 0		
Supercroft (563 Hampshire)					
hand cream aerosol	35 4	8 10	4 9		
hair spray economy	41 0	10 1 1/2	5 6		
super size	70 8 1/2	17 5 1/2	9 6		
Supersealer (1052 Revlon)					
0228	45 6	11 4 1/2	6 9		
Sustac (972 Pharmax)					
tablets gr. 1/25	30 9 0ea	—	12 0		
	250 69 0ea	—	92 0		
gr. 1/10	30 11 0ea	—	14 8		
	250 85 0ea	—	113 4		
Sweet Sue (1412 Jackel)					
talc pad	27 0	6 9	3 11		
Swifan (682 KCL)					
suntan cream	27 4	6 10	4 0		
Swimmy (900 Norton)					
floating soap	3 1/2 oz 17 0	4 3	2 6		
Tampovagin (221 Camden) pessaries					
penicillin, sulpham-					
ilamide and					
sulphathiazole					
ts4B	12 54 0	—	6 0		
	50 174 0	—	19 4		
	100 26 0ea	—	34 8		
stilboestrol and					
lactic acid 5%					
ts4B	12 57 0	14	7 6		
D Tampovagan (221 Camden) pessaries					
stilboestrol and					
lactic acid 5%	50 and 100				
Tek (672 Johnson) tooth-brush					
bristle short-head	26 0	—	3 3		
bristle/nylon					
Duet multituft	26 0	—	3 3		
nylon Supersoft	15 10	—	2 0		
Major multituft	17 11	—	2 3		
Tenavoid (747 Leo)					
tablets ts4B	24 52 0	—	5 9		
Tenuate (838 MN)					
tablets ts4B	30 68 0	—	8 6		
	100 16 8ea	—	25 0		
	500 80 0ea	—	120 0		
Tenuate Dospan (838 MN)					
tablets ts4B	15 62 0	—	7 9		
	100 31 10ea	—	47 9		
D Teoquil (34 A&H) dusting powder & gel					
Tetrex (171 BLL) TS					
capsules	16 16 4ea	—	24 6		
	100 97 6ea	—	146 3		
	1000 941 4ea	—	1412 0		
That Man (1052 Revlon)					
after-shave	0151 94 0	23 6	14 0		
pre-electric shave	117 6	29 4 1/2	17 6		
The Young Ones (1546 Sheranel)					
hair spray					
aerosol	8oz 19 6	4 10 1/2	2 11		
	16oz 30 0	7 6	4 6		
Thiaver (1061 Riker)					
tablets ts4B	100 50 4ea	—	75 6		
	500 246 4ea	—	396 6		
Tidman's (1235 Tidman)					
table sea salt	12oz 24 9	—	2 9		
	5lb 108 0	—	12 0		
Tisane de Durbon (573 JH)					
blood tonic	46 0	11 6	6 9		
Topcat (1175 SPL)					
4doz	31 11	—	10		
Topdog (1175 SPL)					
4doz	38 3	—	1 0		
2doz	35 0	—	1 10		
Toprose (1400 PBI)					
fertilizer	carton 2 8ea	—	4 0		
	7lb 5 0ea	—	7 6		
	14lb 9 4ea	—	14 0		
systemic spray	2oz 2 0ea	—	3 0		
	4oz 3 4ea	—	5 0		
Topsy (681 K)					
Topsy (1243 Topsy)					
Top Ten Tips (1372 CCL)					
finger nails	39 4	—	4 11		
Touch and Glow (1052 Revlon)					
0902	52 0	13 0	7 9		
Tramil (655 ICC)					
48 67 6	—	—	7 6		
Treps (179 BDH) †					
tablets	18 26 0	—	3 3		
Trimster (1442 Trimster)					
baby pants	78 0	—	8 9		
nappies	10 33 6ea	—	45 0		
Trinitrine Cafeinee (49 AF)					
tablets ts7	60 44 0	11 0	5 10		
Triptafen (34 A & H)					
tablets ts4B	50 13 10ea	—	20 9		
	500 110 8ea	—	166 0		
forte ts4B	50 16 2ea	—	24 3		
	500 129 4ea	—	194 0		
Tru-Gel (893 Nicholas)					
standard tube	20 9	4 11	3 0		
economy	35 1	8 4	4 11		
Tympalgin (1320 WSP) †					
ear drops	1/2 oz 42 0	10 6 1/2	6 2		
	dp 1/2 oz 57 0	—	7 2		
Tyromist (187 BS)					
throat					
spray†	25mils 64 0	8 0	8 0		
Ucal (1261 Ucal)					
aerosol antiseptic	33 6	8 4 1/2	4 6		
aerosol athletes foot	33 6	8 4 1/2	4 6		
aerosol moth	33 6	—	3 9		
antiseptic healing					
ointment	14 9	3 8	2 3		
universal cream	21 6	—	2 11		
baby cream	2oz 19 0	4 9	3 0		
	4oz 29 0	7 3	4 6		
baby powder	15 3	3 9 1/2	2 3		
bay rum	4oz 17 3	4 3	2 11		
bay rum and					
eantharides	4oz 17 3	4 3	2 11		
blood purifier	6oz 18 0	4 6	2 11		
borated zinc and					
starch powder	14 0	3 6	2 3		
bronchial					
catarrh syrup	17 6	4 4 1/2	2 11		
lozenges	14 6	3 7 1/2	2 3		
burn dressing	19 6	—	2 11		
chilblain paint	15 6	3 10 1/2	2 6		
children's aspirin	11 9	2 11	1 11		
cinnamon and					
quinine	14 3	3 6 1/2	2 6		
cough mixture, all					
flours	15 0	3 9	2 6		
children's cherry					
bark	2oz 14 0	3 6	2 6		
	4oz 21 6	5 4 1/2	3 6		
adult's cherry					
cough	4oz 21 6	5 4 1/2	3 6		
junior linctus	17 6	4 4 1/2	2 11		
	27 0	6 9	4 6		
speedy cough	17 6	4 4 1/2	2 11		
	27 0	6 9	4 6		
diarrhoea	4oz 18 0	4 6	3 0		
mixture	16 9	4 2	2 9		
ear drops golden	4oz 20 0	5 0	3 0		
embrocation					
extract malt and					
c.i.o.	1lb 28 6	—	—		
	2lb 52 0	—	—		
flavourings					
synthetic	1/2 oz 15 6	—	2 0		
food colourings					
synthetic	1/2 oz 15 6	—	2 0		
foot powder	19 0	4 9	3 0		
fuller's earth					
cream	15 0	3 9	2 0		
powder	14 0	—	2 0		
Gee's linctust	3oz 13 6	—	1 9		
	6oz 22 6	—	3 0		
ginerate					
concentrate	16 0	2 5	2 3		
glycerine suppositories					
infants	30gr 14 6	—	—		
children's	60gr 18 9	—	—		
adult's	90gr 23 0	—	—		
indigestion					
lozenges	16 0	4 0	2 9		
influenza mixture					
red	18 0	4 6	3 0		
iodised throat					
lozenges	10 9	2 8	1 8		
	16 0	4 0	2 9		
iron and yeast					
tonic tablets	22 6	—	3 0		
juniper beans	12 6	3 1 1/2	2 0		
	20 6	5 1 1/2	3 6		
linseed and liquorice					
lozenges	1 1/2 oz 6 6	—	10 1/2		
menthol and winter-					
green cream	17 6	4 4 1/2	3 0		
nebuliser	20 0	—	3 0		
ointment	18 6	4 7 1/2	3 0		
	29 0	7 3	5 0		
	18 6	4 7 1/2	3 0		
tube	11 9	—	1 9		
olive oil	2 1/2 oz 19 9	—	3 0		
	5oz 19 9	—	3 0		
	10oz 35 9	—	5 6		
	20oz 65 0	—	9 3		
pastilles					
Gee's linctust	2oz 13 9	—	1 9		
glycerine, lemon					
and honey	2oz 13 9	2 1	1 11		
glycerine					
thymol	2oz 13 9	—	1 9		
peppermint oil					
solution	1/2 oz 10 6	—	1 6		
pile ointment	tube 20 6	5 1 1/2	3 6		
	jar 20 6	5 1 1/2	3 6		
pine disinfectant					
8oz	13 0	—	1 9		
16oz	21 6	—	3 0		
raspberry vinegar					
2 1/2 oz	13 0	—	1 9		
5oz	19 0	—	2 9		
with olive oil					
2 1/2 oz	12 9	3 2	2 0		
5oz	20 6	5 1 1/2	3 6		
sulphur tablets					
orange flavour	5 6	1 4 1/2	10 1/2		
toilet lanolin	15 0	3 9	2 6		
toothache drops	15 6	3 10 1/2	2 6		
wart paint	15 6	3 10 1/2	2 6		
wintergreen					
ointment	11 9	2 11	1 9		
witch hazel jelly	15 0	3 9	2 6		
worm syrup	20 6	5 1 1/2	5 1 1/2		
D Un Air Embaume (Rigaud (317 CS))					
Un Air Embaume (Rigaud (47 Anestan))					
perfume	1/2 oz 1010	9 9ea	2 5ea		
	1/2 oz 1011	19 9ea	4 11ea		
	1/2 oz 1012	36 0ea	9 0ea		
	1/2 oz 1013	50 0ea	12 6ea		
de luxe	1/2 oz 1002	47 6ea	11 10 1/2ea		
	1/2 oz 1003	66 0ea	16 6ea		
super de luxe					
1007	156 0ea	39 0ea	6ea		
spray	1021 18	0ea	4 6ea		
refill	1031 12	0ea	3 0ea		
toilet water					
2oz	1314 19	0ea	4 9ea		
4oz	1315 30	0ea	7 6ea		
8oz	1316 54	0ea	13 6ea		
32oz	1318 260	0ea	65 0ea		
spray	3oz 1320 39	0ea	9 9ea		
refill	3oz 1330 23	6ea	8 4 1/2ea		
Uraseptine (49 AF)					
granules	80gm 66 0	16 6			
Uromide (291 Consolidated)					
tablets	25 6	6ea	1 7 1/2ea		
	200 38	9ea	9 8ea		
Vademecum (1539 BV)					
Vademecum (84 B&S)					
Valium (1074 Roche)					
ampoules 10mgm/					
2mils ts4B	6 11	8ea	—		
syrup 2mgm/5mils					
ts4B	100mils 8	0ea	—		
	500mils 36	8ea	—		
tablets 10mgm	100 36	0ea	—		
	500 145	4ea	—		
Valoid (208 BW)					
Injection					
50mgm/mils ts7 5	60 0	—	—		
Velouty (379 Dixor)					
powder cream					
tube	11 5	2 10			
	18 7	4 8			
	36 8	9 2			
jar	34 0	8 6			
Vesagex (1341 Willows)					
antiseptic ointment					
tube	32 0	—	—		
Vibazine (583 HP)					
tablets					

1oz 90	17	Oea	4	2ea	32	6	stick	18	9	4	8½	2	6	shaving stick	2153	37	0	9	3	5	5
1oz 040G	22	6ea	5	4ea	42	0	refill	11	5	2	10½	1	6	talcum invisible							
1oz 040H	35	Oea	8	5ea	65	0	Xylotox (970 PM)														
1oz 040	55	Oea	13	5ea	102	6	dental solutions, plain or with adrenaline or														
2oz 040A	96	Oea	23	5ea	179	0	noradrenaline														
4oz 040B	169	Oea	41	5ea	315	0	(solutions with adrenaline or noradrenaline ts48)														
misser 1oz 50A	26	Oea	6	4ea	48	6	2% cartridges														
1012 P5B)							1½mils	20	6	Oea	—	9	0								
ing brushes							2mils	20	6	4ea	—	9	6								
ing size							1½mils	50	12	8ea	—	19	0								
ure bristle							2mils	50	14	Oea	—	21	0								
No. 20	40	0	10	0	5	11	1½mils	100	25	Oea	—	37	6								
No. 21	54	0	13	6	7	11	2mils	100	27	2ea	—	40	9								
No. 22	68	0	17	0	9	11	bottle 50mils	4	8ea	—	7	0									
vice VS1	40	0	10	0	5	11	1½% cartridges														
VS2	54	0	13	6	7	11	2mils	20	6	Oea	—	9	0								
VS3	68	0	17	0	9	11		50	12	8ea	—	19	0								
VS5	74	0	18	6	10	9		100	25	Oea	—	37	6								
eedway							bottle 50mils	4	8ea	—	7	0									
ure bristle							Yardley (1355 Yardley)														
No. 29	29	0	7	3	4	3	anti-perspirant														
No. 39	34	0	8	6	4	11	for men 2040														
London Series"							bathsalt tablets														
Piccadilly							1426	34	0	8	6	5	0								
No. 513	72	0	18	0	10	6	brilliantine, solid														
Hyde Park							1639	31	0	7	9	4	6								
No. 514	85	0	21	3	12	6	1641	34	0	8	6	5	0								
Strand No. 405	102	0	25	6	15	0	complexion														
Burlington							powder 1400														
No. 406	120	0	30	0	17	6	dry skin														
(1479 Wallis)							cleansing cream														
ur sacharin 100	4	6	—	—	9		4131	38	0	9	6	5	7								
500	15	0	—	—	2	3	feather finish	1503	52	0	13	0	7	7							
rm (1154 S&N)							refill	1504	33	0	8	3	4	10							
ets gr. 10 ts48	50	60	0	—	7	6	Florentine														
and 25							case	1402	82	0	20	6	12	0							
Cross (681 K)							foundation														
h mixture 2oz	12	0	3	0	1	8	cream	1410	40	0	10	0	5	10							
4oz	17	0	4	3	2	6	hair tonic for														
Fire (544 Grossmith)							men	2231	48	0	12	0	7	0							
n crystals	609	44	6	11	14	6	hand cream	1415	34	0	8	6	5	0							
n cubes	605	27	0	6	9	4	1415L	55	0	13	9	8	0								
quet perfumed							plastic	415	34	0	8	6	5	0							
ologne	603	34	0	8	6	5	air flow	1450	55	0	13	9	8	0							
613	48	0	12	0	7	0	Infinite Beauty	5151	58	0	14	6	8	6							
plexion							515L	103	0	25	9	15	0								
ap	604	41	0	10	3	6	lavender bath														
ing powder 606	58	0	14	6	8	6	salts	1720	57	0	14	3	8	4							
606X	46	0	11	6	6	9	tablets	1626	34	0	8	6	5	0							
612	34	0	8	6	5	0	oil	1734	31	0	7	9	4	6							
ume	600	34	0	8	6	5	perfume	7280	44	0	11	0	5	5							
601	65	0	16	3	9	6	7282	50	0	12	6	7	4								
perfume	616	51	0	12	9	7	7283	70	0	17	6	10	3								
um	608	36	0	9	0	5	7284	95	0	23	9	13	10								
Mink (1188 Steiner)							7286	143	0	35	9	20	10								
ume							7288	252	0	63	0	36	9								
handbag size	44	6	11	1	6	6	crystallised														
or (1070 Windsor)							Cologne	7270	50	0	12	6	7	4							
n crystals	1222	52	6	12	10	7	spray mist	7247	101	0	25	3	14	9							
n cubes	1216	22	8	5	6½	3	de luxe	7247L	115	0	28	3	16	9							
n disks	1203	17	4	4	2½	4	talcum	7208	33	0	8	3	4	10							
d cream	1221	38	6	9	4½	5	plastic	1707L	48	0	12	0	7	0							
ume stick	1219	26	0	6	4	3	liquifying	1707	33	0	8	3	4	10							
, toilet	1201	9	4	2	3½	1	cleansing cream	4121	38	0	9	6	5	7							
luxury	1202	14	11	3	7½	2	0	20	34	0	8	6	5	0							
um powder 1215	24	5	5	11½	3	6	mascara refill														
um puffer 1220	38	6	9	4½	5	6	moisture creme	4469	37	0	9	3	5	5							
et'a (1351 WLU)							lipstick	5	36	0	9	0	5	3							
ream lather	21	4	5	4	2	11	rouge creme														
							shaving bowl														
							wooden	2055	86	0	21	6	12	7							

THIS WEEK'S CHANGES

Prices are given in the sequence: Trade price per doz./purchase tax per doz./retail price (bold if maintained), thus:—17s 11d/4s 3d/2s 3d. A dash — in any column indicates that the manufacturer has provided no figure appropriate to that column.

A =Price advanced
R =Price reduced
● =New entry
D =Delete
C =Correction

unit

6

—

—

—

D Angio-Conray 80 (971 P5M8)

● Anodesyn (147 Boots)

ointment 25gm

27 4

6 10

4 0

suppositories 12

27 4

6 10

4 0

72

140 0

35 0

20 5

R Biogastrone (117 8PL)

tablets	24	20	Oea	—	30	0	
	100	75	Oea	—	112	6	
● Bodyfresh (1372 CCL) deodorant							
aerosol	56	0	13	4	8	9	
spray bottle	32	0	7	7	4	11	
B-Pas (1303Wander)							
R calcium powders 3.5gm							
	100	41	Sea	—	62	1½	
	500	194	9ea	—	292	1½	
B-Pasinah (1303Wander)							
R calcium powder 3.5gm							
	100	43	10ea	—	65	9	
Breck (1509 C of G8)							
hair set mist	Soz	58	10	14½	10	8	6
R Bronchilator (97 Bayer) ts7							
measured-dose nebuliser							

Birmingham • Bournemouth • Leeds • Liverpool • Cardiff • Bristol

ORRIDGE & CO.

CHEMISTS' STOCKTAKERS

184 STRAND LONDON WC2. TEMPLE BAR 9212/3

